A Descriptive Look at College Enrollment and Degree Completion of Baltimore City Graduates

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B·E·R·C

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Executive Summary

Successful college preparation begins well before high school. Students must not only obtain a high school diploma or GED, but must also have cultivated sophisticated cognitive (i.e., reading, writing, and math) and non-cognitive abilities (e.g., time and conflict management skills, tenacity, sociability) that will allow them to thrive in the challenging academic environment of college (Roderick, Nagaoka, & Coca, 2009).

Earning a college degree increases a person's life outcomes in income, employment, health, and quality of life. The average person with a bachelor's degree earns almost twice as much as a high school graduate and nearly triple that of someone who did not finish high school. The unemployment rate for people with bachelor's degrees is about one-third that for non-high school graduates and one-half that of high school graduates (Bureau of Labor Statistics, 2010). College graduates are also more likely to have health insurance and are more likely to participate in civic life – for example, they are more likely to vote or participate in community organizations (College Board, 2010). In short, college graduates are wealthier, healthier, and more civically active. College pays dividends to both the individual and the society.

The goal of this study is to paint a picture of Baltimore City Schools' current activities on college access, enrollment, and completion. We hope to establish a baseline for future analyses and identify areas where additional research and information could inform City Schools concerning its graduates' success with college access. The road to college includes many hurdles. Some of them can be readily anticipated, like having necessary financial resources, taking the SAT or ACT, and completing financial aid forms, but other barriers are less apparent.

Core Findings:

- Local colleges and universities have disparate definitions of college readiness. Local institutions vary so greatly that students who are labeled college ready at one local college often will not be at another. This differential need for remediation has far-reaching implications for students in terms of the cost of college and time to graduation.
- There has been increased enrollment at 2-year colleges compared to 4-year even though it is clear that students who enroll in 2-year colleges are far less likely to complete degrees.
- Recent national statistics indicate that about 70% of high school graduates enroll in college right after graduation, and for students from low-income families enroll at the lower rate of 54% (National Center for Education Statistics, 2011). About 48% of Baltimore's graduates enrolled in college immediately after graduation.
- Over time, the number of Baltimore graduates who enroll in college rises: among the Class of 2008, 60.8% had enrolled by 2010.
- For the Class of 2004 who *ever enrolled* in college, 23% earned either a 2- or 4-year degree by 2010.

The findings of this study and recent conversations with City Schools district leaders have suggested several areas in which targeted efforts would have the greatest impact:

First, starting in elementary school, *promote a college-going culture with high academic standards* that would have far-reaching benefits for graduation and college success. Namely, students could identify possible future careers and their education requirements. Ideally, students would enter high school with aspirations about going to college, so that in middle school they should understand course sequencing and prerequisites to complete college admission requirements during high school. Further, parents and families must be engaged so that they are prepared to assist students in completing applications and Free Application for Federal Student Aid (FAFSA) in time for college application season.

Second, school leaders and teachers should provide students *ongoing, systematic, and deliberate guidance* toward a successful college application process. Counselors and knowledgeable adults can have the greatest impact if contact with students is continual throughout high school. Haphazard or delayed college selection is unlikely to result in increased enrollment in selective colleges or student commitment to college completion. Further, guidance needs to include conversations about funding (e.g., scholarships, student loans) for families early in the process.

Third, given the sheer numbers of City Schools graduates who attend Baltimore City Community College (BCCC) and the Community College of Baltimore County (CCBC), some sort of mediation between City Schools and BCCC and CBCC regarding thresholds for credit-bearing courses seems sensible. *All* institutions would be well served by closer coordination between high school preparation and the entrance criteria for credit-bearing courses. Furthermore, local colleges might benefit from a closer scrutiny and standardization of admission and remediation requirements. At the very least, this would allow counselors in high schools to offer clear, accurate guidance to students on *good-fit* institutions.

Fourth, City Schools currently pays for all students to take the Preliminary SAT (PSAT) to familiarize them with national standards for college admissions. It is an important way to prepare for the demands of the SAT. Moreover, *taking the PSAT during the junior year*, when it serves as the National Merit Scholarship Qualifying Test (PSAT/NMSQT), would likely increase scholarship and recruiting opportunities for students. Moreover, the percent of students taking the test can serve as a leading indicator of interest in attending college.

City Schools has made important strides in recent years to increase graduation rates. Ensuring that students are prepared, informed, motivated, and skilled to succeed in college is the natural next step. To do this rigorous instruction must be common and will require not only better teaching, but also better family outreach achieved through increased coordination between teachers, counselors, and parents.

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Background

Earning a college degree improves a person's life outcomes in employment, income, health, and quality of life. Thus, it is important to track Baltimore City Schools graduates' success in attending and completing college. In this study, we seek to summarize college enrollment and completion trends over the past several years. These data will not only serve as a baseline for comparison with future data, but also allow us to identify areas where additional research and information can inform City Schools efforts to create a college-going climate throughout all its elementary, middle and high schools.

The Benefits of Educational Attainment

College Graduates make more money. Economically, education serves a dual purpose: it helps one earn more and reduces one's risk of unemployment. According to the most recent data from the U.S. Census Statistical Abstract, the average person with a bachelor's degree earns almost twice as much as a high school graduate and nearly triple that of someone who did not finish high school. In 2010, the unemployment rate for people with bachelor's degrees was about one-third the rate for non-high school graduates and one-half the rate for high school graduates (see Table 1).

Table 1.
2010 National Unemployment Rate and Earnings by Educational Attainment

Education level	Unemployment rate	Median weekly earnings
Less than high school	14.9	$444
High school diploma	10.3	$626
Some college	9.2	$712
Associate's degree	7.0	$767
Bachelor's degree	5.4	$1,038
Master's degree	4.0	$1,272
Professional degree	2.4	$1,610
Doctoral degree	1.9	$1,550

Source: Bureau of Labor Statistics, 2010

College Graduates are less likely to be unemployed. It is instructive to look at the interaction between race and educational attainment. As seen in Table 2, employment prospects for African Americans are lower than for all other groups. However, unemployment rates drop for each credential earned. Even some college reduces the likelihood of unemployment, especially among African Americans.

Table 2.
2009 National Unemployment Rates by Race/Ethnicity and Educational Attainment

	White	Afr Am	Asian	Hispanic	Total
Less than high school	13.9	21.3	8.4	13.7	14.6
High school diploma	9.0	14.0	7.5	10.4	9.7
Some college or associate's degree	7.3	11.5	8.3	9.2	8.0
Bachelor's degree or higher	4.2	7.3	5.6	5.7	4.6
Total	7.3	12.3	6.6	10.5	7.9

Source: 2010 Census (population figures), 2011 Statistical Abstract (unemployment figures)

College Graduates experience better health and life outcomes. Economic figures alone do not give a full picture of the importance of postsecondary education. College graduates report being happier and healthier than high school graduates or dropouts (College Board, 2010). Furthermore, college graduates are more likely to have health insurance; consequently, they seek regular or preventive health services more often and have lower medical bills. College graduates are also more likely to participate in civic life – for example, they are more likely to vote or participate in community organizations (College Board, 2010). In short, college graduates are wealthier, healthier, and more civically active. College pays dividends to both the individual and the society.

Barriers to College Access and Degree Completion

Enrolling in college requires academic readiness and the completion of a complex set of preparative actions. First, admission to college requires students to meet rigorous academic entry requirements by completing challenging preparatory classes. In fact, successful college preparation begins well before high school: Students are greatly disadvantaged in the process if they do not enter grade 9 on track to complete college admissions requirements such as Algebra 2, and multiple years of foreign language and science. Furthermore, the well-positioned student must also have cultivated sophisticated cognitive (i.e., reading, writing, and math) and non-cognitive abilities (e.g., time and conflict management skills, tenacity, sociability) that will allow him or her to thrive in the challenging academic environment of college (Roderick, Nagaoka, & Coca, 2009). In addition to being academically prepared for rigorous college-level work, students must complete many detailed tasks by specific deadlines, such as submitting transcripts, receiving recommendations, identifying sources of financial aid, and completing a FAFSA form. Successfully navigating this process without support from knowledgeable adults – particularly

teachers, counselors, and parents – is difficult. Thus, students without close relationships to these knowledgeable adults are at a serious disadvantage in making it to college.

Research has shown that first generation college-goers face greater challenges than their peers with college-educated parents. Additionally, students from less wealthy families or minority families are less likely to enroll in college (College Board, 2010). As seen in Table 3, Baltimore has more minority-identified residents with lower incomes and less formal education than their suburban neighbors in Baltimore County, the rest of Maryland, and the U.S. Additionally, in Baltimore City, White residents over 25 years of age are three times more likely than African Americans to have finished college: 33% of Baltimore Whites completed bachelor's degrees, compared to only 10% of African Americans. This pattern is representative of an overall lag in educational attainment in Baltimore City (see Appendix A: Comparison of Educational Attainment for People Aged 25 Years and Older in the US, Maryland, Baltimore County).

Table 3.
Demographic Comparison of the USA, Maryland, Baltimore County and Baltimore City

	USA	Maryland	Baltimore County	Baltimore City
Population	281,421,906	5,296,486	754,292	651,154
% White	75.1	64	74.4	31.6
% Black	12.3	27.9	20.1	64.3
Median family income				
White	$53,356	$68,076	$62,660	$49,391
Black	$33,255	$47,471	$50,471	$30,190
Percent below poverty line				
White	9.1	5.5	5.2	13.4
Black	24.9	14.9	9.9	27.3
Percent with bachelor's degree or higher (among population 25 years and over)				
White	26.1	34.7	31.0	33.0
Black	14.3	20.3	24.6	10.0
Educational Attainment (percent among population 25 years and over)				
No high school diploma	19.6	16.2	15.7	31.6
High school diploma or higher	80.4	83.8	84.4	68.4
Bachelor's degree or higher	24.4	31.5	30.6	19.1

Source: U.S. Census, 2000

Degree completion is a further challenge, requiring students to negotiate a college campus and meet academic expectations with minimal supervision. In addition to academic challenges, first generation college-goers must continually negotiate financial obligations and an unfamiliar social environment.

In the rest of this report, we present data to help readers understand the current status of students in Baltimore City Schools enrolling in college and completing degrees.

Methodology

Research Questions

The research questions addressed by our analysis are:

- How do local colleges define "readiness" for college?
- How many City Schools graduates enroll in college the fall immediately after graduation?
- How many City Schools graduates ever enroll in college?
- What does college enrollment among City Schools graduates look like by gender, receipt of special education services, and high school type?
- What types of postsecondary institutions do City Schools graduates attend?
- How many City Schools graduates complete postsecondary degrees?

Data and Analysis

This study is based upon data from multiple sources, ranging from local sources such as the Baltimore City Schools Office of Achievement and Accountability to national sources such as the National Student Clearinghouse (NSC) and the Integrated Postsecondary Education Data System (IPEDS) (See Table 4). In some cases, we were able to cross-reference sources to construct richer data sets than we could obtain from any one source alone. This process also alerted us to many of the problems these data have, foremost of which is undercounting students (i.e., having no record that a student enrolled in and attended a college when he or she did both).

For a more complete description of how data were assembled, see Appendix B: Data Sources and Collection Methods. For a more complete discussion of data processing and analysis techniques, see Appendix C: Data Processing and Methods of Analysis.

We analyzed our data with the goal of providing a rich description of the college going process in Baltimore City Public Schools. No techniques were used to make statistical inferences about students (i.e., there are no generalizations from a sample to a larger population). In other words, our data represent the entire population of Baltimore City Public Schools: if we do not have an actual record of an event in a student's educational history, it is neither inferred nor reported.

Table 4.
Data Sources Used in This Study

Unit of Analysis	Data Source(s)	Use
Student	National Student Clearinghouse (NSC)	Identify college enrollment and degree completion. Represents 92% of U.S. students enrolled in higher education.
	Morgan State University (MSU)	Supplement NSC data, as Morgan State University has not always participated with NSC. These data do not distinguish fall versus spring enrollment, so we default to assuming enrollment occurred in the fall.
	Baltimore City Public Schools Office of Achievement and Accountability	Provide student graduation records.
School	Maryland State Department of Education (MSDE)	Provides demographic, graduation rate, and academic performance data on specific Baltimore City Public High Schools.
School district	Maryland State Department of Education (MSDE)	Provides demographic, leaver graduation rate, and academic performance data on Baltimore City Public Schools and neighboring counties.
State	Maryland State Department of Education (MSDE)	Provides demographic, leaver graduation rate, and academic performance data on the state of Maryland.
	U.S. Census	Provide demographic data on the state of Maryland and its cities and counties.
Nation	National Center for Education Statistics (NCES) and Integrated Postsecondary Education Data System (IPEDS)	Provides national data on educational attainment, high school completion, college enrollment, and degree completion.
	U.S. Census	Provides demographic data on the United States.

Findings

In the following sections, we present findings to our research questions. For consistency and ease of presentation, we present City Schools data for the Classes of 2008 to 2010 except when data from other recent years is substantively important, or contradicts an apparent trend in the 2008-2010 data.

How do local colleges define "readiness" for college?

The generally accepted definition of a *college ready* student is someone who is ready and able to take college level courses at entrance without needing remediation (ACT, Inc., 2005; Conley, 2007). Yet, the standards used by colleges to determine student need for remediation are far from uniform. Most of Baltimore's nearby colleges determine a student's readiness for college on the basis of scores on the College Board's ACCUPLACER tests in writing, reading, and mathematics. Each college determines its own thresholds for remediation by content area.

We surveyed those institutions at which City Schools graduates have most often enrolled to learn what ACCUPLACER scores would place students into college-bearing courses. We found that there is variation in cut scores between colleges (see Table 5).

Table 5.
College ACCUPLACER Cut Scores for Determining College Ready by College/University

	ACCUPLACER score^		
2-year	**Math**	**Writing**	**Reading**
Baltimore City Community College (BCCC)	63 (EA), 45 (CM)	90	79
Community College of Baltimore County (CCBC)	70 (EA), 45 (CM)	90	79
Anne Arundel Community College (AACC)	83 (EA), 45 (CM)	73	68
4-year			
Coppin State University	108 (EA)	-	86
Morgan State University	Major dependent	98	88
Towson University	109 (EA)	-	80
University of Maryland Eastern Shores (UMES)	108 (EA), 63 (CM)	--	--

EA – Elementary Algebra; CM – College Math

^ Lowest score a student can earn to be placed into a credit bearing course. In some cases, majors have different cut scores and the logic behind the application of the cut scores is more complicated than can be shown in this chart.

This finding has important implications. First, students, administrators, and counselors seeking tangible guidance about what counts as *college ready* will not find a simple answer: the answer

is dependent on each institution's self-determined standards. Whether a student is *college ready* is contingent upon the college he or she chooses to attend. For example, a student with a score of 70 on the reading ACCUPLACER test will be required to take remediation at Anne Arundel Community College (AACC), yet can enroll in a credit-bearing course at Baltimore City Community College (BCCC) and Community College of Baltimore County (CCBC). A score of 70 on the Elementary Algebra assessment would mean college level math at BCCC and CCBC and remediation at AACC. The choice of college will impact the cost and time to complete any required remediation and then degree completion. These inconsistencies are both confusing and a serious potential barrier to degree completion(National Center for Education Statistics, 2009).

How many City Schools graduates enroll in college the fall immediately after graduation?

Longitudinal analysis of college enrollment rates must take into consideration high school graduation rates, which have been increasing in Baltimore since 2006. Generally, graduation rates increase as struggling students are given extra support to help them meet missing diploma requirements. However, such struggling students are generally less likely to enroll in college, or even be interested in continuing in school. Consequently, improving high school graduation rates typically reduces college enrollment rates by increasing the overall number and changing the composition of high school graduates. For a more detailed statistical treatment, see Appendix D: Graduation (Leaver Rate) and Fall College Enrollment for the Baltimore City Schools Graduating Classes of 2006 through 2010.

Baltimore City Schools underwent this pattern: Between 2006 and 2010, the high school graduation rate calculated by the Maryland State Department of Education for City Schools increased more than 5 percentage points. At the same time, college enrollment rates increased by 2 percentage points (see Table 6). This has implications for interpreting the effects of dropout reduction programs like Great Kids Come Back (GKCB). The good news – increased high school graduation rates – is accompanied by what might be construed as bad news – college enrollment rates holding steady or not increasing at a similar pace.

Table 6.
Number and Rate of Baltimore City Graduates and
Fall College Enrollment for the Classes of 2006 through 2010

Class	High School Graduates		Fall College Enrollees	
	Number	Graduation Rate (Leaver)	Number	Percent
2006	4,107	60.6	1,836	44.7
2007	4,111	60.1	1,927	46.9
2008	4,017	62.7	1,921	47.8
2009	4,279	62.7	2,075	48.5
2010	4,421	65.9	2,063	46.7

Source: NSC/MSU data, received January 2011; Leaver rate from MSDE, mdreportcard.org

Recent national statistics indicate that about 70% of high school graduates enroll in college right after high school graduation, while 54% of low-income students do so (National Center for Education Statistics, 2011). On average, about 48% of Baltimore's recent graduating students enrolled in college immediately after high school graduation.

How many City Schools graduates ever enroll in college?

Not all Baltimore students in the featured cohorts went to college the fall after they graduated high school, but a majority eventually attended. The percentage of City Schools graduates from the classes of 2008 and 2009 who *ever* enrolled in higher education was over 10 percentage points higher than the percentage enrolling *the fall after graduation* (see Table 7). With the passing of each year, high school graduates have extended periods of opportunity to enroll in college. Thus, all else equal, earlier graduating classes (e.g., 2008) can be expected to have higher values than more recent ones (e.g., 2010), because students have had a longer span of months "post-high school" during which they could enroll in college. Consequently, one cannot make an "apples to apples" comparison of those *ever enrolled* across cohort years.

Table 7.
Number and Percent of Baltimore City Graduates Who Ever Enrolled in College and Enrolled the Fall After Graduation for the Classes of 2008 Through 2010

		Enrolled Fall After Graduation		*Ever Enrolled*	
Class	**N**	**Number**	**Percent**	**Number**	**Percent**
2008	4,017	1,921	47.8	2,444	60.8
2009	4,279	2,075	48.5	2,541	59.4
2010	4,421	2,063	46.7	2,110	47.7

Source: NSC/MSU data, received January 2011, Leaver Rate from MSDE, mdreportcard.org.

As we consider the difference between enrolling in college immediately after high school graduation or later, we note that it does matter for various other outcomes when a student enrolls. As we report in later sections, the data indicate that students who enrolled later were less likely to complete a degree, even allowing a sufficient passage of time to render the comparison fair and meaningful.

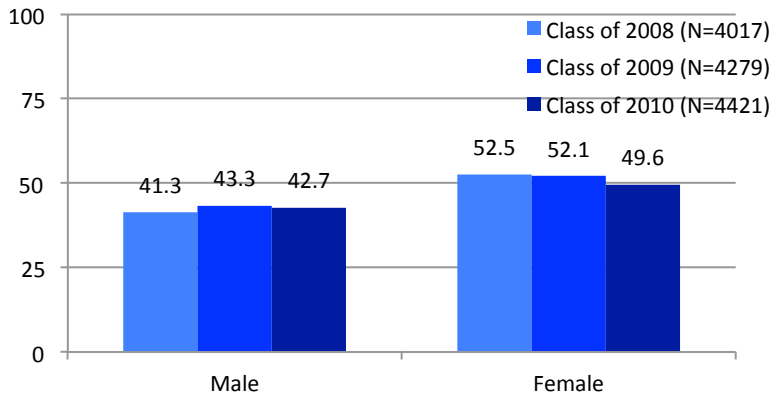
What does college enrollment among City Schools graduates look like by gender, receipt of special education services, and high school type?

Gender

Consistent with national trends in college enrollment, female City Schools graduates enroll at higher rates than males. Over the last three graduation cohorts, however, this gap has narrowed

from 11.2 percentage points for the Class of 2008, to 8.8 for the Class of 2009, to 6.9 percentage points for the Class of 2010 (see Figure 1).

Figure 1. The percent of male and female high school graduates enrolled in college the fall after high school graduation.



Special Education Services

The percentage of students in Baltimore City receiving special education services is higher than what is observed for its neighbor, Baltimore County, for the state of Maryland, or for the nation. In fact, fully one-sixth of Baltimore public high school students receive special education services (see

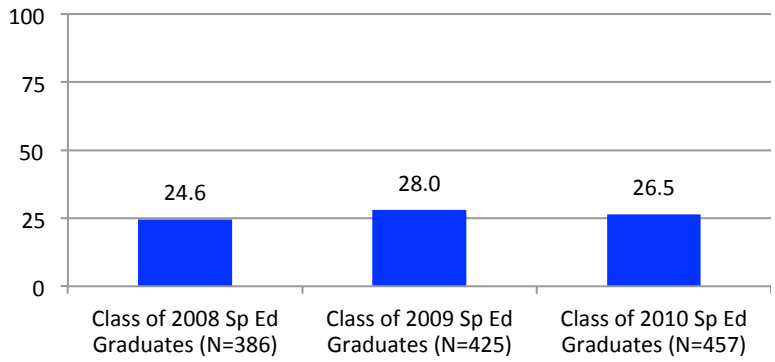
Table 8). Among City Schools graduates from the Classes of 2008-2010 who received special education services, between 25% and 28% enrolled in college in the fall after graduation (see Figure 2).

Table 8.
Percentage of Students Receiving Special Education Services in the USA, Maryland, Baltimore County, and Baltimore City

	USA	Maryland	Baltimore County	Baltimore City
2004	13.8	10.9	9.9	14.5
2007	13.6	10.9	10.0	17.1
2010	unavailable	10.7	10.6	16.6

Source: Profile of Undergraduates in U.S. Postsecondary Education Institutions: 2003–04, National Center for Education Statistics, 2006 (USA); MSDE, mdreportcard.org (Maryland, Baltimore County, Baltimore City)
National data is of *all* students receiving special education services.
Maryland data is of only *high school* students.

Figure 2. The percent of high school graduates who received special education services in high school who enrolled in college the fall after high school graduation.



High School Type

There are several types of public high schools in Baltimore City (See Appendix E: Baltimore City Schools Classification By Year for a complete list of high schools and their categorizations):

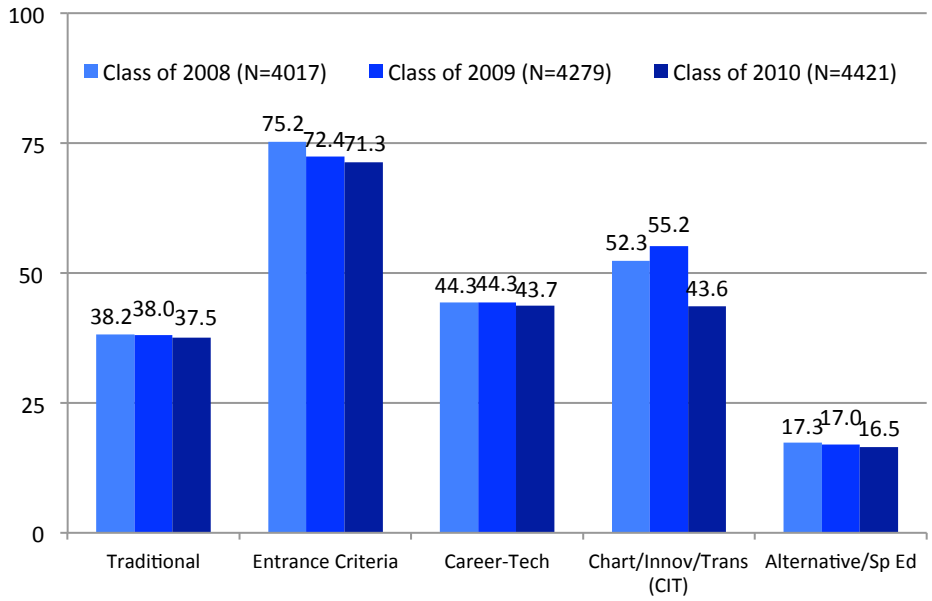
- *Traditional schools* are high schools with no special entrance criteria, featuring a standard comprehensive curriculum. Historically, these schools served the local neighborhoods, but City Schools currently allows most students to choose where they enroll in high school.
- *Entrance criteria schools* customarily serve students from the entire city and generally feature a comprehensive curriculum. However, to be accepted, students must meet certain thresholds on the grade 7 Maryland State Assessment (MSA), have a high attendance rate in grade 8, and have competitive middle school grade averages in English, math and science.
- *Career-Tech schools* have a curriculum focused around technology; they seek to prepare students for further education and/or careers in technological fields. These schools also have some academic entrance requirements.
- *Charter, Innovation, and Transformation (CIT) schools* are externally operated schools without entrance criteria. They often have unique curricula and organizational structure and are not bound to all of the same rules as traditional schools. However, they must meet all the same accountability measures as other schools.
    - *Charter schools* are public schools of choice. Each school has a specific contract with the district that details its curriculum, goals, and assessment methods.
    - *Innovation schools* are small, independent schools operated by a non-profit governing board that oversees the school's performance.

- *Transformation schools* serve grades six through twelve (instead of the traditional nine through twelve) and feature a specific theme of study. Their curricula are focused around college, career, or alternative programming.

- *Alternative/Special Education schools* serve students with special needs, with students assigned by the Office of Student Placement.

Entrance criteria schools have the largest percentages of students enrolling in higher education right after high school, as would be expected. Graduates of traditional high schools enrolled at the lowest rate, with the exception of graduates from schools primarily serving students with special needs.

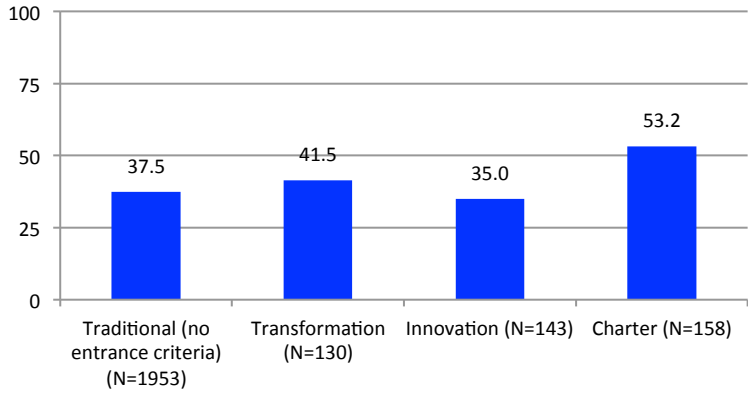
Figure 3. Percentage of Baltimore City graduates enrolled in college in the fall following high school graduation by high school type for the Classes of 2008 through 2010.



The pattern of enrollment among graduates of career-tech high schools was fairly stable. However, the pattern of college enrollment across graduating cohorts of CIT high schools was more variable. Notably, in 2008 and 2009, CIT graduates enrolled in college at a higher rate than graduates of career-tech schools, but for the Class of 2010, the rate was almost equal to that of career-tech graduates. The rates of college enrollment for the CIT schools are less stable, in part because some were relatively new schools and were graduating their inaugural classes, while others have closed and left the category. Figure 4 provides a clearer picture of the enrollment rates for the CIT schools and compares their graduates' enrollment to traditional high school graduates separately for the most recent class. Graduates of charter high schools enrolled in college immediately after high school at a rate of 53.2%, lower than entrance criteria schools, but higher than all other types. Graduates of transformation high schools enrolled in college at a higher rate (41.5%) than graduates of traditional high schools (37.5%), but the rate for graduates of Innovation schools (35.0%) was not much different from that for graduates of Traditional high

schools. However, the reader should note that the Innovation category included only two high schools with graduates in 2010.

Figure 4. Percent of high school graduates enrolled in college in the fall after high school graduation by high school subtype for the Class of 2010.

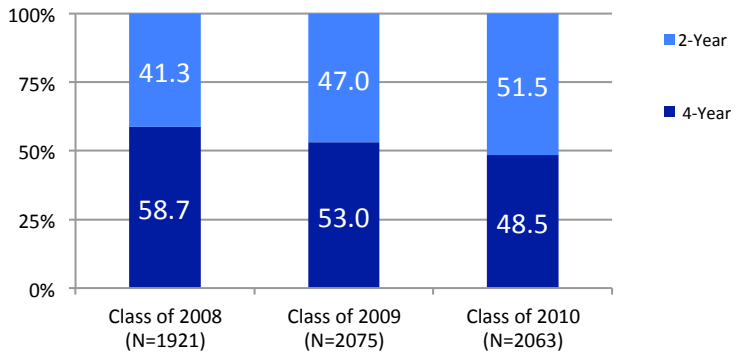


What types of postsecondary institutions do City Schools graduates attend?

2-year versus 4-year college enrollment

Historically, the majority of Baltimore City Schools' graduates who enrolled in college the fall after high school attended 4-year universities. In recent years this trend has reversed. Among the Class of 2006, 60.8% of graduates enrolling in the fall attended 4-year colleges. By 2009, 53% of those enrolling in the fall after high school went to 4-year schools (as seen in Figure 5). By 2010, this percentage was 48.5%, marking the first time among recent cohorts that more graduates enrolled at 2-year than 4-year colleges.

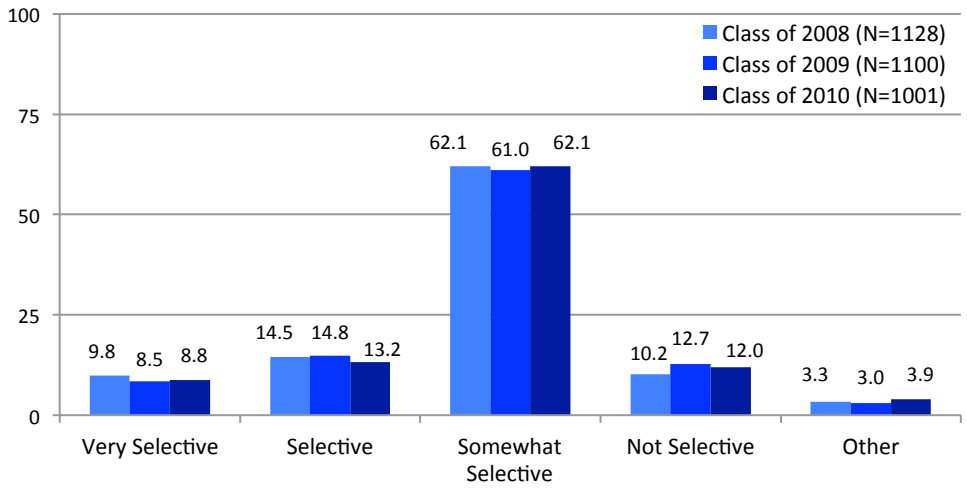
Figure 5. The percent of students enrolled in college the fall after graduation who enrolled at 4-year or 2-year institutions.



Selectivity of colleges at which students enroll

Trends in the Barron's selectivity ratings of the 4-year colleges at which City Schools graduates enrolled in the fall after high school can be seen in Figure 6 (Barron's, National Center for Education Statistics, 2009). The majority of graduates who enrolled in a 4-year college the fall after graduation attended a *somewhat selective* college, or about three-fifths of all enrollees. About one-fifth attended *very selective* or *selective* 4-year schools. The rest enrolled in 4-year colleges that were *not selective*.

Figure 6. Percent of students enrolled in the fall following graduation at 4-year colleges by selectivity ratings for the Classes of 2008 through 2010.



Between the Classes of 2008 through 2010, the number and proportion of students attending *very selective* and *selective* 4-year colleges was fairly stable, while enrollment at *non-selective* 4-year colleges increased slightly. There has been no change at all in those attending *somewhat selective* colleges.

Why and how students arrive at their college choice is important, especially because college selectivity and degree completion are closely related. Students who attend more selective colleges are more likely to complete degrees than students who attend less selective colleges. More important, however, is that students with similar academic and social backgrounds are more likely to succeed at selective institutions (i.e., controlling for parental education, family income, SAT scores, class rank, and other variables that correlate with academic success) (Alon & Tienda, 2005; Bowen, Chingos, & McPherson, 2009; Roderick, Coca, & Nagaoka, 2011). In other words, even when controlling for *propensity* to succeed using established predictors of academic success, otherwise equal students are more likely to graduate from more selective schools than from nonselective schools. Thus, City Schools graduates who opt for less selective schools than they are capable of attending are putting themselves at a higher risk of not completing a degree. We cannot yet determine whether the most academically prepared students

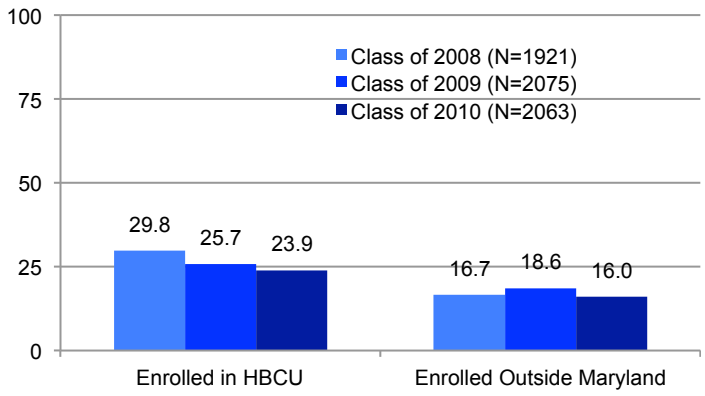
are choosing to attend the most selective colleges, nor can we know whether less academically prepared students are opting for 2-year colleges over 4-year colleges. Further research is needed to uncover the motivations driving students' college choices.

See Appendix F: Most Frequently Enrolled Institutions of Higher Education Attended by City Schools Students from the Class of 2004 for a list of local colleges by selectivity, as well as the criteria by which colleges' selectivity ratings are based.

Out-of-State and HBCU Enrollment

Among the Classes 2008 to 2010, most students attended local colleges, with about one-quarter attending Historically Black Colleges and Universities (HBCU). A smaller number opted for out-of-state postsecondary institutions (see Figure 7).

Figure 7. Percent of City Schools graduates enrolled in Historically Black Colleges and Universities and out of state colleges, 2008-2010.



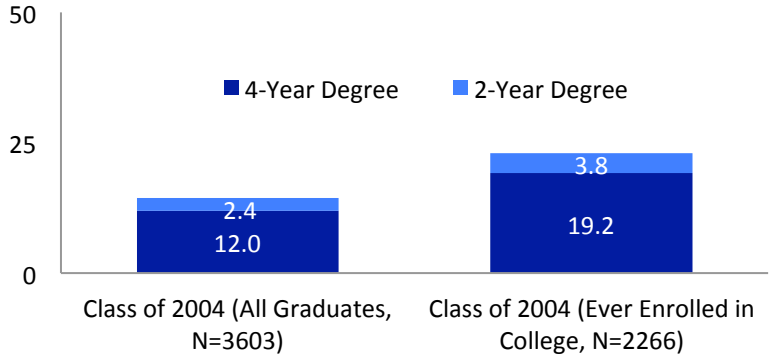
Between 2008 and 2010, there was a 5.9 percentage point decrease in the proportion of City Schools graduates who enrolled at an HBCU. Part of this decrease may be explained by the decreased enrollment at 4-year colleges, since the vast majority of HBCUs are 4-year institutions. Notably, enrollment at colleges outside of Maryland did not change appreciably.

How many City Schools graduates complete postsecondary degrees?

Among all Baltimore Graduates

Among all Baltimore City Schools high school graduates from the Class of 2004, 14.4% went on to earn a degree. Of only those graduates who ever enrolled in college, 23.0% earned a degree (see Figure 8). Four-year degrees were earned at a higher rate than 2-year degrees.

Figure 8. Percent of students completing degree (2- and 4-year degrees) for the Class of 2004 for all City Schools graduates and those who ever enrolled in college

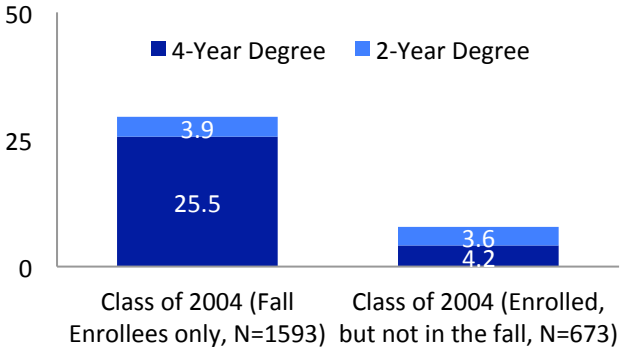


Among Students Who Enrolled in Postsecondary Education

Increased interest in degree completion has led to public releases of national college degree completion rates. These data can be found in the Integrated Postsecondary Education Data System (IPEDS) and are based upon the number of enrolled students from an entering freshman cohort who earn a 4-year degree within six years or a 2-year degree within three years (National Center for Education Statistics, 2004-2011). Below, we present IPEDS reported rates as points of reference, but not for absolute comparison. These national reports are not comparable to what we present for Baltimore high school graduates since the IPEDS data follow cohorts of freshmen who enrolled full time.

Using data on Baltimore graduates' degree completion, we calculated degree completion rates for the Class of 2004, allowing six years for any degree to have been granted. However, we are not able to separate students enrolled in college full-time from those enrolled part-time, so our reported rates of degree completion among City Schools graduates are more conservative than if we only considered full-time enrollees.[1]

Figure 9. Percent of students completing 2- and 4-year degrees for the Class of 2004 by time of enrollment.



[1] One study using the Beginning s Survey of 1990 estimated the difference in graduation rates for part-time students to be between 6 and 16 percentage points lower for than for full-time students.

Among the Class of 2004, 29.4% of students who enrolled the next fall earned a degree, and students who enrolled later finished degrees at the lower rate of 7.8%. Overall, graduates earned more 4-year than 2-year degrees.

We cannot make causal claims about early enrollment causing higher rates of degree completion among Baltimore City graduates. The type of student who enrolls in college immediately after graduation is likely to be different than the type of student who enrolls later. National data support this assertion: Students who delayed college enrollment in the National Education Longitudinal Study of 1988 (NELS:88) were more likely to be socioeconomically disadvantaged (e.g., have lower family incomes) and less academically prepared (e.g., had dropped out of high school, had lower SAT scores) than those who enrolled in college immediately after graduating high school (Jacobs & King, 2002; Bozick & DeLuca, 2004). It is not surprising, then, that such students are less likely to graduate from college than their more advantaged peers.

Yet, it is still plausible that becoming disconnected from academic life works against one's ability to succeed in academic institutions, over and above any influences of socioeconomic status or prior academic readiness. Students who delayed enrollment in the NELS:88 study, even when controlling for socioeconomic and academic factors, were 64% less likely to graduate college (Bozick & DeLuca, 2004). This figure is consonant with the disparity found in our study. Further research is necessary to disentangle precisely how much delayed enrollment actually contributes to the disparity in degree completion rates among City Schools graduates.

Two-year colleges

Two-year colleges appeal to prospective students for several reasons: They are cheaper than 4-year colleges (in 2010, the average annual tuition at public 2-year American colleges was $2,713, compared to $7,605 at public 4-year colleges and $27,293 at private 4-year colleges), they do not have demanding admission criteria, they are often close to home, and they generally require less of a time commitment – part-time study is normal and full-time students can finish in two years (College Board, 2010). These appeals have certainly attracted Baltimore City School graduates. Financial considerations are especially salient considering the harsh economic climate of recent years and relatively high levels of poverty among Baltimore families. Yet, enrolling in a 2-year community college instead of a 4-year university is associated with a lower likelihood of earning a degree. Among all City Schools graduates from Class of 2004 who started at a 2-year college, only 5.8% had earned a degree by 2010.

Table 9 shows the total number of graduates from the Class of 2004 who ever enrolled or completed a degree at the listed institution. Baltimore graduates completed degrees from Anne Arundel Community College (AACC) at about half the rate as among all AACC freshmen. Baltimore graduates completed degrees from BCCC at a rate close that for all BCCC full-time freshmen, which may reflect the fact that City Schools graduates represent a substantial proportion of the student body. City Schools graduates received degrees from CCBC at about half the college's overall freshmen completion rate. Nationally, 27.8% of full-time freshmen

who entered public 2-year institutions in 2004 earned a degree within three years (National Center for Education Statistics, 2009).

Table 9.
Number and Percent of Baltimore City Schools Graduates Ever Enrolling and Completing a 2-Year Degree by Fall 2010 for the Class of 2004, by Institution

2-Year Postsecondary Institutions	Ever Enrolled	Earned Degree	Percent Earning Degree	IPEDS Completion Rate Among All Full-time Freshmen Entering in 2004^
Anne Arundel Community College	30	2	6.7	13.0
Baltimore City Community College	854	30	3.5	5.0
Community College of Baltimore County	753	35	4.7	9.0
ITT Technical Institute	32	4	12.5	Not reported
Total Enrollments±	**1,669**	**71**	**4.3**	**-**
Total Students*	**1,481**	**86**	**5.8**	**-**

± A student may enroll at multiple institutions.
*All 2-year institutions attended by Baltimore graduates are included in these totals.
^The IPEDS rates for all freshmen are provided for context. It reports the percentage of all entering full-time students entering in 2004 who completed their 2-year degree program within 3 years at that same school.

Source: NSC/MSU data, received January 2011 (City Schools data); Freshman graduation rate from the Integrated Postsecondary Education Data System, 2010; National Center for Education Statistics, 2009 (national data).

The relatively low overall degree completion rate among the Class of 2004 (5.8%) may be at least partially explained by the fact that among Baltimore's recent graduating cohorts, more graduates began their college careers at BCCC than at any other college. Traditionally, the majority of entering students at BCCC are likely to be placed into remedial (non-credit-bearing) classes (Abell, 2002; and Abell, March 2002). Affected graduates will enter credit-bearing coursework later than their counterparts at institutions with more relaxed placement standards. Another possibility is that local colleges may be unequipped to provide the necessary support, financial and academic, for socioeconomically disadvantaged or academically underprepared students. A third possibility is that unexpected circumstances often require such students to reduce their enrollment to part-time or to leave college entirely. Many other explanations are possible. Identifying the precise causes of low degree completion in Baltimore, and the relative importance of these causes, is an important task that requires more research.

Four-year colleges and universities

Among Class of 2004 graduates who *ever enrolled* in a 4-year college, overall, 34.4% earned degrees after six years. In additional analyses not shown, we found that the completion rate was even higher among graduates who *began* their postsecondary studies in the fall after graduation at a 4-year school, at 42.4%. Table 10 shows the colleges where at least five City School graduates enrolled. The table lists the number of students who ever enrolled and received a 4-year degree from the listed institution.

Coppin State enrolled the most City Schools graduates from the Class of 2004 who attended a 4-year college; less than one-fifth of those enrollees later completed a 4-year degree at Coppin State (17.3%). Morgan State enrolled almost as many City Schools graduates, and slightly more than one-fifth completed degrees from Morgan (21.0%). Graduates who enrolled in Hood College, Washington College, and Maryland Institute College of Art completed 4-year degrees at the highest rate (80.0%), although only a handful of students enrolled at these schools. Class of 2004 enrollees at University of Phoenix completed degrees at the lowest rate (3.3%). Nationally, 57.3% of first-time students who started as full-time degree seeking students who entered a 4-year college in 2001 finished at that same school within six years (National Center for Education Statistics, 2009).

It is important to note that City Schools graduates from the Class of 2004 who enrolled at the most selective universities were significantly more likely to graduate with a degree: at the *selective* and *very selective* universities, 43.9% of enrollees eventually earned a 4-year degree. Among those City Schools graduates who started at *somewhat selective* and *not selective* 4-year universities, less than a quarter earned a 4-year degree (22.6%). These data would suggest that it seems wise for students, parents and counselors to favor attendance at the most selective school a student can attend (Roderick, Coca, & Nagaoka, 2011; Bowen, Chingos, & McPherson, 2009).

Table 10.
Number of Baltimore City Schools Graduates Who Ever Enrolled and Completed a 4-Year Degree by Fall 2010 for the Class of 2004 by Institution and IPEDS Degree Completion Rates

4-Year Postsecondary Institutions	Ever Enrolled	Earned Degree	Percent Earning Degree	IPEDS Completion Rate Among All Full-time Freshmen Entering in 2001^
Very Selective				
St Mary's College of Maryland	7	5	71.4	83.0
University of Maryland, College Park	51	29	56.9	80.0
Selective				
Hood College	5	4	80.0	71.0
Salisbury University	14	4	28.6	68.0
Towson University	86	31	36.1	66.0
University Of Maryland, Baltimore County	44	16	36.4	61.0
Washington College	5	4	80.0	73.0
Somewhat Selective				
Bowie State University	74	21	28.4	37.0
College Of Notre Dame Of Maryland	31	13	41.9	63.0
Coppin State University	272	47	17.3	19.0
Frostburg State University	23	10	43.5	51.0
Hampton University	16	8	50.0	54.0
Howard University	17	7	41.2	69.0
Lincoln University	9	4	44.4	38.0
Morgan State University	248	52	21.0	38.0
Stevenson University	42	11	26.2	61.0
Temple University	6	2	33.3	59.0
University Of Maryland, Eastern Shore	84	29	34.5	37.0
Not Selective				
University Of Baltimore	50	9	18.0	not reported
University Of Phoenix	82	3	3.7	6.0
Other-Special				
Maryland Institute, College Of Art	5	4	80.0	70.0
Strayer University-Washington	30	1	3.3	not reported
Total Enrollments[±]	**1,201**	**314**	**28.4**	-
Total Students*	**1,261**	**434**	**34.4**	-

[±] A student may enroll at multiple institutions.
*All 4-year institutions attended by Baltimore graduates are included in these totals.
^ The IPEDS rate for all freshmen is provided for context. It reports the percentage of all entering full-time students entering in 2001 who completed their 4-year degree program within 6 years at that same school. Total degree completion rates are 'n/a' because sufficient data are not available to calculate true category averages.
Source: NSC/MSU data, received January 2011; Freshman graduation rate from the Integrated Postsecondary Education Data System, National Center for Education Statistics, 2009.

Discussion, Recommendations, and Conclusions

Graduation rates among Baltimore City Schools students have increased more than 5 percentage points over the last five years. This is a substantial accomplishment and signifies City Schools' commitment to academic rigor and college access. However, as more City Schools students graduate via programs designed to identify and support at-risk or previously disengaged students, there must be awareness that such students may be less interested in postsecondary education, and less likely to have completed a college preparatory course path. Developing a college-going culture in all schools that cultivates students' personal aspirations long before high school is one way to target these at-risk students as well as the broader set of their classmates. To address the academic realities graduating seniors will face, City Schools must continue providing challenging, college preparatory classes with rich instruction for all students.

City Schools possesses the building blocks for further success: postsecondary enrollment rates for the fall immediately after high school graduation are relatively stable, even as high school graduation rates have increased, but are lower than what is desired and lower than what they could be. One explanation for the lower degree completion rate is the trend of enrollment in less selective schools. Among City Schools graduates from the Class of 2004 who first enrolled in colleges rated *very selective* or *selective*, slightly less than half earned degrees. However, among those graduates who initially enrolled in colleges rated as *somewhat selective* or *not selective*, the degree completion rate was less than one-fourth.

The trend of increasing rates of students starting college at 2-year instead of 4-year colleges has serious implications for future degree completion. The proportion enrolling in 4-year colleges was 58.7% among the Class of 2008 but 48.5% among the Class of 2010. For the Class of 2004, only 7.1% of those students who initially entered a 2-year institution earned a degree, compared to 42.4% of those who initially entered 4-year colleges.

Other studies suggest that, controlling for prior academic ability, socioeconomic status, and students' educational aspirations, those who start at community colleges are less likely to finish 4-year degrees than those who enter directly into 4-year colleges (Long & Kurlaender, 2009). The trend of increased enrollment of City Schools' graduates at 2-year colleges needs to be reviewed. Both nationally and in City Schools data, it is clear that students who enroll in 2-year colleges are far less likely to complete degrees. Counselors, parents and students should all aim for the most selective institution possible.

The degree completion story, however, does not end with high schools. Local colleges have different criteria for remediation, making it hard for students to know if they are ready to enter college and earn credits. Furthermore, degree completion rates at some local institutions suggest more could be done to support students on their way to graduation.

In addition to investigating why degree completion rates are low, we also need to understand students' various pathways to college and the motivations behind the decisions students make while traveling this path. This knowledge will help City Schools better prepare its graduates for both college enrollment and degree completion.

In conclusion, we believe the current findings suggest four areas in which City Schools might effectively focus their efforts:

First, starting in elementary school, encouraging a college-going culture with high academic standards and supports for struggling students would have far-reaching benefits for later college success. Namely, students could identify career interests and their associated education requirement. Ideally, students develop aspirations about going to college *before* entering high school, so that they understand course sequences in middle school and can enter high school ready to complete college admission requirements during high school. In each year of high school, students need ongoing, scaffolded support towards understanding the college application process, including practice with written college application essays. Parents and families must be engaged early so that they are prepared to assist students in identifying financial resources such as completing FAFSA applications in time for fall enrollment. At all levels, students' academic skills (as well as their non-cognitive skills such as persistence and organization) can be supported via challenging instruction that requires college-like skills such as intensive reading and frequent writing.

Second, school structures are necessary to ensure that all students receive *ongoing, systematic, and deliberate* guidance. Counselors and knowledgeable adults can have the greatest impact if contact with students is continual throughout high school. Haphazard or delayed college selection leads to enrollment in less selective colleges, delayed starts, and lack of commitment to college completion. Schools may find that sharing potential resources (e.g., scholarships and student loans) would be useful for families.

Third, given the sheer numbers of City Schools graduates who attend Baltimore City Community College and the Community College of Baltimore County, some regular communication between City Schools and BCCC and CBCC regarding thresholds for credit-bearing courses seems sensible. *All* institutions would be well served by closer coordination between high school preparation and enrollment in credit-bearing courses. Furthermore, local colleges might benefit from a review and standardization of admission and remediation requirements. At the very least, this would allow counselors in high schools to offer clear, accurate guidance to students to ensure they will attend a college at which they can demonstrate success.

Fourth, students could better familiarize themselves with national standards for college admissions and the demands of the SAT by taking the PSAT during their sophomore year. Moreover, taking the PSAT in their junior year, when it serves as the National Merit Scholarship Qualifying Test (PSAT/NMSQT), would likely increase scholarship and recruiting opportunities for students. Additionally, students could take the SAT starting in their Junior year which would allow them time to practice for and retake the test if necessary.

City Schools has made important strides in recent years in increasing the number of graduates. Ensuring that students are aware, motivated, and skilled to succeed in college will require raising the bar further on rigorous instruction, increased coordination across both the teacher and counselor corps, and outreach to families.

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Appendices

Appendix A: Comparison of Educational Attainment for People Aged 25 Years and Older in the US, Maryland, Baltimore County, and Baltimore City

	USA	Maryland	Baltimore County	Baltimore City
No high school diploma	19.6	16.2	15.7	31.6
High school graduate (incl. equivalency)	28.6	26.7	27.6	28.2
Some college credit, less than 1 year	7.1	7.1	7.4	6.3
1 or more years of college, no degree	14.0	13.2	13.2	11.3
Associate degree	6.3	5.3	5.6	3.5
Bachelor's degree	15.5	18.0	18.1	10.4
Master's degree	5.9	8.7	8.0	5.6
Professional degree	2.0	2.9	3.2	2.0
Doctorate degree	1.0	1.9	1.3	1.1
Total with high school diploma or higher	80.4	83.8	84.4	68.4
Total with Bachelors degree or higher	24.4	31.5	30.6	19.1

Appendix B: Data Sources and Collection Methods

The Maryland State Department of Education (MSDE) provides school, district, and state level data on demographics, graduation rate, and school performance on its public accountability web site, http://www.mdreportcard.org/. Most data on school and citywide graduation rates comes from here.

National Student Clearinghouse (NSC) Data

The NSC data is currently the most comprehensive national data source to identify college enrollment and degree completion. However, the reader should note several caveats about the accuracy and completeness of NSC data. First, NSC data does not capture 100% of all students enrolled in a postsecondary institution, but it is the most comprehensive U.S data source for student-level postsecondary enrollment – more than 3,300 colleges, institutes and universities participate with the NSC, capturing 92% of all college students enrolled in college across the country. However, students enrolled at several types of schools, such as some small 2-/4-year schools, trade schools, and some arts conservatories and religious schools, may be undercounted by the Clearinghouse. Further, NSC data does not currently provide full-time versus part-time status, which is important for understanding degree completion rates. It also does not provide information about specific courses taken by enrollees, nor whether the courses are credit-bearing (i.e., developmental or non-developmental).

Another challenge is that the NSC is a dynamic database, in that the data are time dependent. NSC solicits data throughout the year from participating colleges and universities, and student enrollment status can change. As each college processes and cleans its own enrollment data, records are updated to reflect new or late enrollments and withdrawals, or to make corrections. The NSC data used in this study were current as of October 2010.

Another issue is that the NSC uses data submitted by the school district to perform a matching algorithm with data it receives from participating postsecondary institutions. In general, the match utilizes student names and birthdates (in some cases Social Security Numbers); thus, error may be represented in the data returned to the school district. These errors may result when the information a college provides information for a student that is different from that possessed by the school district (e.g., name spelling differences or inaccurate birthdates). College students are also permitted to place a "FERPA block" on their enrollment data, which would result in *false negatives* for college enrollment. Therefore, in some cases a student may actually be enrolled in a college when the data would indicate he/she is not enrolled. Furthermore, *false positives* for college enrollment may occur when, e.g., a different student with an identical name or birthdate is mistakenly identified as enrolled, when the intended student is not actually enrolled.

Morgan State University (MSU) – a common destination for Baltimore City high school graduates did not begin participating with NSC until 2011. Morgan State's Office of Institutional Research provided their enrollment data for City Schools graduates for the classes of 2004-2010. It is not clear the extent to which other colleges and universities enroll Baltimore

graduates not counted by NSC.

Baltimore City Public Schools Office of Achievement and Accountability (OAA) provided student level data to help complete the enrollment profile of City School students. This data is often used to cross-reference data from difference sources. For example, NSC and MSU data were matched using OAA data.

National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) is the most accessible national level data source for information on education. IPEDS provides national degree completion rates for various groups, as well as individual colleges' enrollment and degree completion information. NCES Fast Facts and the Digest of Education Statistics provided all national statistics concerning high school graduation and student demographics.

U.S. Census, Current Population Survey data was our source for comprehensive demographic information about family income and educational attainment.

Bureau of Labor Statistics (BLS) provides data on education when its connection to employment is of direct concern.

Appendix C: Data Processing and Methods of Analysis

Classifying the Class of 2010

City Schools' graduates are identified using the 'A' file submitted and approved by MSDE at the conclusion of each school year. In this file, graduates are identified using the 'C60' code. As a result, all City Schools students with a C60 code are in the annual 'A' file.

Almost every year there are cases where students who were previously submitted as C60 code (graduates) appear in a later year's 'A' files as C60 graduates again. BERC uses the most recent file to define graduates. Students who reappear in files are excluded from the previous year's graduates and included with the most recent graduating class indicated by the 'A' file.

This means that college enrollment rates will fluctuate with each year's new data, although changes should be minor. For example, the number of graduates reported in the 'A' file for 2008-09 was 4,286. However, in the 2009-10 'A' file, 7 of the prior year's graduates were included again, so current calculations for the Class of 2009 reflect 4,279 rather than 4,286.

Identifying Fall College Enrollees

The NSC is capable of providing enrollment data for seven consecutive cohorts of graduates. We followed the standard procedure used to classify fall enrollment. Fall enrollees were identified in either the NSC data or in MSU's enrollment files, received directly from the Institutional Research Office at MSU. Fall enrollment status was then determined by comparing students high school graduation dates with their college enrollment status the next fall. Students who graduated from high school in the fall rather than the spring are included if they enrolled in college the next fall, regardless of whether they enrolled in college the spring subsequent their high school graduation. Students who enrolled any time subsequent to the fall after they graduated from high school were excluded.

A challenge in using the MSU data is that it does not distinguish between fall and spring enrollment. We categorized all students enrolled at MSU at some point during the year are categorized as fall enrollees. Though this may slightly inflate our *fall* enrollment count, we agreed that this was better than not counting students who did attend college in the year after they graduated. More precise figures on MSU will be available in 2012 when the NSC data are released; the number and percent of City Schools enrollees will likely decline as students who initially enroll in the spring are not counted with fall enrollees.

As mentioned above, enrollment reported by NSC may fluctuate over time as colleges update and refine the data provided to NSC. Consequently, annual data sometimes change from year to year. For example, the number of City Schools fall 2009 enrollees reported by NSC in January 2010 for the graduating class of 2008-09 was 2,035. However, in the data received in January of 2011, an additional 40 enrollees were identified and reported. Thus, the most recent count of enrolled graduates from the class of 2008-09 is 2,075. Older NSC data is on the whole systematically less accurate than recent data. BERC uses the most recent data.

MSDE Leaver Rates

To determine high school graduation rates, BERC uses the leaver rates published by MSDE. In some instances, BERC identifies more or fewer graduates using City Schools' data. In these cases, both figures are reported.

Degree Completion Data

The NSC/MSU data on college degree completion are time sensitive. Consequently, a comparison of college graduation rates across cohort years is not an "apples-to-apples" one. As time passes, more students will complete their degrees. All things equal, we would expect the graduation rate for an older cohort to be higher than a more recent cohort.

Appendix D: Graduation (Leaver Rate) and Fall College Enrollment for the Baltimore City Schools Graduating Classes of 2006 through 2010

	2010 Graduates		2009 Graduates		2008 Graduates		2007 Graduates		2006 Graduates	
Graduation Rate (Leaver)	65.9		62.7		62.7		60.1		60.6	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of *Diploma* Graduates	4421		4279		4017		4111		4107	
Enrolled in college fall following graduation	2063	46.7	2075	48.5	1921	47.8	1927	46.9	1836	44.7
Analysis of Graduates Enrolled in the Fall Following Graduation										
Enrolled in a 4-Year College	1001	48.5	1100	53.0	1128	58.7	1198	62.2	1117	60.8
Enrolled in a 2-Year College	1062	51.5	975	47.0	793	41.3	729	37.8	719	39.2
Enrolled in Historically Black College	494	23.9	534	25.7	572	29.8	605	31.4	563	30.7
Enrolled outside of Maryland	331	16.0	386	18.6	321	16.7	350	18.2	291	15.8
Analysis of Graduates Enrolled in 4-Year Colleges in the Fall^										
Number enrolled in 4-Year College	1001		1100		1128		1198		1117	
Very Selective	88	8.8	93	8.5	111	9.8	148	12.4	126	11.3
Selective	132	13.2	163	14.8	164	14.5	184	15.4	205	18.4
Somewhat Selective	622	62.1	671	61.0	701	62.1	735	61.4	694	62.1
Not Selective	120	12.0	140	12.7	115	10.2	109	9.1	53	4.7
Other	39	3.9	33	3.0	37	3.3	22	1.8	39	3.5
Sub-Group Analysis										
Number of Male Graduates	1907		1758		1675		1674		1704	
Male fall college enrollment	815	42.7	762	43.3	691	41.3	654	39.1	628	36.9
Number of Female Graduates	2514		2521		2342		2437		2403	
Female fall college enrollment	1248	49.6	1313	52.1	1230	52.5	1273	52.2	1208	50.3
Number of Special Ed Diploma Graduates	457		425		386		333		289	
Special Ed fall college enrollment	121	26.5	119	28.0	95	24.6	73	21.9	40	13.8
Number of African-American Graduates	4039		3899		3648		3767		3740	
African-American college enrollment	1876	46.4	1868	47.9	1732	47.5	1754	46.6	1652	44.2

continued

Appendix D: Graduation (Leaver Rate) and Fall College Enrollment for The Baltimore City Schools Graduating Classes of 2006 through 2010 - *continued*

	2010 Graduates		2009 Graduates		2008 Graduates		2007 Graduates		2006 Graduates	
Graduation Rate (Leaver)	65.9		62.7		62.7		60.1		60.6	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fall Enrollment Rate by High School Type:										
Number of Traditional (no criteria) Graduates	1953		1958		1805		2058		2024	
Traditional fall college enrollment	732	37.5	745	38.0	689	38.2	742	36.1	695	34.3
Number of Entrance Criteria Graduates	1138		1087		946		1017		1033	
Entrance criteria fall college enrollment	811	71.3	787	72.4	711	75.2	742	73.0	758	73.4
Number of Career and Technology Graduates	675		709		756		733		729	
Career and technology fall college enrollment	295	43.7	314	44.3	335	44.3	359	49.0	334	45.8
Number of Chart/Innov/Trans Graduates	431		366		279		80		n/a	
Charter/Innov/Trans fall college enrollment	188	43.6	202	55.2	146	52.3	51	63.8	n/a	n/a
Number of Alt/Special Education Graduates	224		159		231		223		321	
Alternative/Special Ed fall college enrollment	37	16.5	27	17.0	40	17.3	33	14.8	49	15.3

Source: MSDE Leaver Rate (www.mdreportcard.org), NSC data supplemented with data from Morgan State University's Office of Institutional Research.

Appendix E: Baltimore City Schools Classification By Year

For the Class of 2004:

Traditional:
Lake Clifton Eastern (40); Southside Academy High (70); Southern High (181); Northwestern (401); Patterson High (405); Forest Park Senior High (406); Walbrook Senior High (411); Southwestern (412); WEB DuBois High (418); Reginald F Lewis High (419); Samuel L. Banks High (420); Frederick Douglass High (450)

Entrance Criteria:
Polytechnic Inst (403); Western High (407); Dunbar High School (414); Baltimore School for the Arts (415); The National Academy Foundation (421); City College High (480)

Career-Tech:
Edmonson Westside (400); Mergenthaler Vocational Tech High (410); Carver Vocational Technical (454)

Alternative/Special Ed:
Francis M. Wood High (178); Harbor City High (413); Central Career Academy at Briscoe (451); Laurence G. Paquin High (457)

For the Class of 2005:

Traditional:
Lake Clifton Eastern (40); Southern High (70); Southside Academy High (181); Northwestern (401); Patterson High (405); Forest Park Senior High (406); Walbrook Senior High (411); Southwestern (412); W.E.B. Dubois High School (418); Reginald F. Lewis (419); Samuel L Banks (420); Maritime Academy (431); Frederick Douglass High (450)

Entrance Criteria:
Polytechnic Inst (403); Western High (407); Dunbar High School (414); Baltimore School for the Arts (415); The National Academy Foundation (421); City College High (480)

Career-Tech:
Edmonson Westside (400); Mergenthaler Vocational Tech High (410); Carver Vocational Technical (454)

Charter/Transformation/Innovation: none in 2005

Alternative/Special Ed:
Francis M. Wood High (178); Harbor City High (413); Central Career Academy at Briscoe (451); Laurence G. Paquin High (457)

For the Class of 2006:

Traditional:
Southside Academy High (181); Northwestern (401); Patterson High (405); Forest Park Senior High (406); Walbrook Senior High (411); Southwestern (412); Digital Harbor High (416); W.E.B. Dubois High School (418); Reginald F. Lewis (419); Samuel L Banks (420); Thurgood Marshall High (424); Heritage High School (425); Doris M Johnson (426); Maritime Academy (431); Homeland Security High (434); Business and Entrepreneurship Academy (435); Liberal Arts Academy (436); Frederick Douglass High (450)

Entrance Criteria:
Polytechnic Inst (403); Western High (407); Dunbar High School (414); Baltimore School for the Arts (415); The National Academy Foundation (421); City College High (480)

Career-Tech:
Edmonson Westside (400); Mergenthaler Vocational Tech High (410); Carver Vocational Technical (454)

Charter/Transformation/Innovation: none in 2006

Alternative/Special Ed:
Francis M. Wood High (178); Harbor City High (413); Laurence G. Paquin High (457); Eager Street Academy (884)

For the Class of 2007:

Traditional:
Southside Academy High (181); Northwestern (401); Patterson High (405); Forest Park Senior High (406); Southwestern (412); Digital Harbor High (416); W.E.B. Dubois High School (418); Reginald F. Lewis (419); Samuel L Banks (420); Thurgood Marshall High (424); Heritage High School (425); Doris M Johnson (426); Vivien T. Thomas Medical Arts Academy (429); Augusta Fells Savage (430); Maritime Academy (431); Homeland Security High (434); Business and Entrepreneurship Academy (435); Liberal Arts Academy (436); Frederick Douglass High (450)

Entrance Criteria:
Polytechnic Inst (403); Western High (407); Dunbar High School (414); Baltimore School for the Arts (415); The National Academy Foundation (421); City College High (480)

Career-Tech:
Edmonson Westside (400); Mergenthaler Vocational Tech High (410); Carver Vocational Technical (454)

Charter/Transformation/Innovation: New Era Academy (422); Baltimore Freedom Academy (423)

Alternative/Special Ed: Francis M. Wood High (178); Harbor City High (413); Central Career Academy at Briscoe (451); Laurence G. Paquin High (457); Eager Street Academy (884)

For the Class of 2008:

Traditional
Southside Academy of Environmental Science High (181); Northwestern High (401); Patterson High (405); Forest Park High (406); Digital Harbor High (416); W.E.B. DuBois Environmental Science High (418); Reginald F. Lewis High (419); Samuel L. Banks High (420); Thurgood Marshall High (424); Heritage High (425); Doris M. Johnson High (426); Vivian T. Thomas Medical Arts Academy High (429); Augusta Fells Savage Institute for Visual Arts (430); Maritime Industries Academy (431); Homeland Security High (434); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Entrance Criteria
Baltimore Polytechnic (403); Western High (407); Paul Laurence Dunbar High (414); Baltimore School for the Arts (415); Baltimore City College (480)

Career and Technology
Edmondson-Westside (400); Mergenthaler Vo-Tech (410); National Academy Foundation (421); Carver Vo-Tech (454)

Charter/Innovation/Transformation
Independence School Local 1 (333); New Era Academy (422); Baltimore Freedom Academy Middle/High (423); Academy for College and Career Exploration High (427); Baltimore Talent Development High (428)

Alternative/Special Ed
Francis M. Wood Alternative (178); Achievement Academy at Harbor City (413); Career Center at Briscoe (451); Lawrence G. Paquin Middle/High (457)

For the Class of 2009:

Traditional
Southside Academy of Environmental Science High (181); Northwestern High (401); Patterson High (405); Forest Park High (406); Digital Harbor High (416); W.E.B. DuBois Environmental Science High (418); Reginald F. Lewis High (419); Samuel L. Banks High (420); Thurgood Marshall High (424); Heritage High (425); Doris M. Johnson High (426); Vivian T. Thomas Medical Arts Academy High (429); Augusta Fells Savage Institute for Visual Arts (430); Maritime Industries Academy (431); Homeland Security High (434); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Entrance Criteria
Baltimore Polytechnic (403); Western High (407); Paul Laurence Dunbar High (414); Baltimore School for the Arts (415); National Academy Foundation (421); Baltimore City College (480)

Career and Technology
Edmondson-Westside (400); Mergenthaler Vo-Tech (410); Carver Vo-Tech (454)

Charter/Innovation/Transformation
Independence School Local 1 (333); New Era Academy (422); Baltimore Freedom Academy Middle/High (423); Academy for College and Career Exploration High (ACE) (427); Baltimore Talent Development High (428); Coppin Academy High (432); Renaissance Academy (433)

Alternative/Special Ed
Francis M. Wood Alternative (178); New Hope Academy (345); Achievement Academy at Harbor City (413); Eager Street Academy (884)

For the Class of 2010:

Traditional
Southside Academy of Environmental Science High (181); Northwestern High (401); Patterson High (405); Forest Park High (406); Digital Harbor High (416); W.E.B. DuBois Environmental Science High (418); Reginald F. Lewis High (419); Samuel L. Banks High (420); Thurgood Marshall High (424); Heritage High (425); Doris M. Johnson High (426); Vivian T. Thomas Medical Arts Academy High (429); Augusta Fells Savage Institute for Visual Arts (430); Maritime Industries Academy (431); Homeland Security High (434); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Entrance Criteria
Baltimore Polytechnic (403); Western High (407); Paul Laurence Dunbar High (414); Baltimore School for the Arts (415); National Academy Foundation (421); Baltimore City College (480)

Career and Technology
Edmondson-Westside (400); Mergenthaler Vo-Tech (410); Carver Vo-Tech (454)

Charter/Innovation/Transformation
ConeXions Community Leadership Academy (325); Independence School Local 1 (333); New Era Academy (422); Baltimore Freedom Academy Middle/High (423); Academy for College and Career Exploration High (ACE) (427); Baltimore Talent Development High (428); Coppin Academy High (432); Renaissance Academy (433)

Alternative/Special Ed
Francis M. Wood Alternative (178); New Hope Academy (345); Achievement Academy at Harbor City (413)

Appendix F: Most Frequently Enrolled Institutions of Higher Education Attended by City Schools Students from the Class of 2004

2-Year Postsecondary Institutions

- Anne Arundel County Community College
- Baltimore City Community College
- Community College of Baltimore County

4-Year Postsecondary Institutions by Barron's Selectivity Index*

Very Selective

- Johns Hopkins University
- Loyola University
- St. Mary's College of Maryland
- University of Maryland, College Park

Selective

- Goucher College
- Hood College
- McDaniel College
- Salisbury University
- Towson University
- University Of Maryland, Baltimore County
- Washington College
-

Somewhat Selective

- Bowie State University
- College Of Notre Dame Of Maryland
- Coppin State University
- Frostburg State University
- Hampton University
- Howard University
- Lincoln University
- Morgan State University
- Stevenson University
- Temple University
- University Of Maryland, Eastern Shore

Not Selective

- University Of Baltimore
- University Of Phoenix

Other-Special

- Maryland Institute College Of Art
- Strayer University
- University of Maryland, University College

***Criteria for Barron's Selectivity Index**

Rating	Criteria
Very Selective	Students ranked in the top 10 to 35% in high school Admitting up to 50% of applicants
Selective	Students ranked in the top 35 to 50% in high school Admitting between 50 and 75% of applicants
Somewhat Selective	Students ranked in the top 50 to 65% in high school Admitting between 75 and 85% of applicants
Not Selective	Students ranked in the top 65% in high school, OR Any student who graduated high school Admitting more than 85% of applicants
Other	Schools not classified by Barron's (e.g., proprietary schools, small conservatories)