College Enrollment and Degree Completion for Baltimore City Graduates through the Class of 2012

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Executive Summary

Baltimore City Public Schools (City Schools) has made great strides in its effort to lower the number of high school dropouts and to encourage prior dropouts to return and graduate by providing a broad set of options for students with a diverse set of needs and academic histories. At the same time, City Schools has initiated an effort to foster a college and career-ready culture in its schools. Across different high schools and even within the same school, students hold vastly different aspirations for adulthood and expectations about careers. The findings in this report reflect this tension, as we note that as high school graduation numbers have gone up, trends in college enrollment have declined somewhat over recent years, and more graduates are choosing 2-year instead of 4-year institutions.

College Enrollment

Slightly more than 44% of the Class of 2012 enrolled in college in the fall after graduation, and the number and share of graduates enrolling in 2-year rather than 4-year institutions continues to increase; 54% of the class of 2012 enrolled in 2-year institutions compared with 38% for the class of 2007. Nationally, 66% of 2012 graduates enrolled in college, more than half (57%) in 4-yr colleges (Bureau of Labor Statistics, 2013).

The majority of graduates who enrolled at 4-year postsecondary institutions chose those with *somewhat selective* or *non-selective* ratings of competitiveness. This is true among graduates of traditional high schools as well as high schools with entrance criteria.

Fall enrollment is concentrated at a small number of local institutions; the top four most frequently enrolled institutions for the Class of 2012 that accounted for 60% of all fall enrollments were: Community College of Baltimore County (CCBC), Baltimore City Community College (BCCC), Coppin State University and Morgan State University.

Degree Completion

The six year degree completion rates for Baltimore City Schools graduates who enrolled in college the fall after graduation range from 28.6% for the Class of 2004, to 28.3% for the Class of 2005, to 32.4% for the Class of 2006.

The six-year degree completion rates varied by whether the initial enrollment was in a 2-year or 4-year college.

- Over 40% of students enrolled in a 4-year college completed degrees. The majority of completed degrees (>95%) were 4-year degrees.

- For students starting at 2-year institutions approximately 11% completed any degree.

We hope the findings of this study will help guide City Schools and our local institutions of higher education toward making the necessary steps to improve the educational opportunities of City Schools students. In light of our findings, we recommend the following:

- It could be enlightening and beneficial for BERC and City Schools (as well as other partners, as appropriate) to pursue additional research to address the questions raised in this report and to understand students' motivations, choices and barriers to success in college, including the need for remediation on arrival at college.

- City Schools should collect data on student career and college expectations prior to graduation. This information will let us know if students enrolled in a 2-year college plan to transfer to a 4-year institution, complete a certificate, or earn an AA degree.

- Because rates of college degree completion are highest for students enrolling the first fall after graduation, MSDE should consider publishing both first fall enrollment and 16-month enrollment as part of the state's accountability system. That will allow future researchers to examine degree completion rates for students who delay or do not delay enrollment into college.

- Researchers working with City Schools and other agencies need to better understand "summer melt" whereby students accepted to college fail to enroll the following fall. This phenomenon may be responsible for the lower than expected college enrollment rates characterizing particular Baltimore high schools (e.g., some of the city's Entrance Criteria high schools).

- City Schools explore the feasibility of collecting data on which students would be first generation college-goers. This information, if collected in middle or early high school, could guide support for students through the college selection and application process, financial documentation obligations, and other potential barriers.

- City Schools counseling and school staff need to be aware of the low degree completion rates for students enrolling in 2-year institutions, and the financial challenges that this path may produce.

- We (BERC and City Schools) currently have no information about postsecondary certificate completion. Occupation- or skill-relevant certificates, as well as the emerging phenomenon of micro-credentialing through badges, are important parts of the postsecondary landscape. BCCC and CCBC should be encouraged to provide these data to NSC so they can be used in future reporting and provide a more nuanced picture of City Schools graduates' success.

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Background

Baltimore City Public Schools (City Schools) instituted an initiative to reduce the number of dropouts from high school and to enable those who are overage, under-credited, or who have faced significant personal obstacles to remain in school, to return and to graduate successfully. Called *Great Kids Come Back* (GKCB), over the past three years this initiative has led to an increase in the number of graduates.

At the same time, high school graduates improve their life chances far more by gaining a postsecondary credential. This goal has become part of federal policy as President Barack Obama has called for 60% of Americans aged 25-34 to complete a college degree by 2020 (Kanter, Ochoa, Assif, & Chong, 2011) and reverberates down to the state and local level. Governor Martin O'Malley recently established a goal of increasing the percentage of Maryland adults over age 25 holding a postsecondary degree to 55% by 2025, representing an 11 point increase from current levels. In Baltimore, City Schools has initiatives focused on "career and college readiness" to support students' postsecondary planning and preparation. At all levels, increasing the share of the population with postsecondary credentials is a high priority but will require an intense focus on improving access among disadvantaged groups, especially minority, lower-income, and immigrant students.

The Benefits of Educational Attainment

Economically, education serves a dual purpose: at the same time that a college degree increases standard of living and lifetime earning potential, it also reduces the risk of unemployment. According to the most recent data from the U.S. Census Bureau, someone with a bachelor's degree earns almost twice as much per week as a high school graduate, and nearly three times that of someone who did not finish high school. In 2012 the unemployment rate for people with bachelor's degrees was about one-third the rate for non-high school graduates and almost one-half the rate for high school graduates. In uncertain economic times, educational attainment is a protective factor: in 2012 African Americans were, on average, nearly twice as likely to be unemployed as Whites (13.8% vs. 7.2%), but having a bachelor's degree reduced that likelihood by half. Only 6.3% of African Americans with a bachelor's degree were unemployed in 2012 (Bureau of Labor Statistics, Current Population Survey, 2013).

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, since college graduates are more likely to have health insurance, they seek regular or preventive health services more often and have lower medical bills and better health over a lifetime. 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 a 4-year 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 at a disadvantage 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. The best-positioned college applicants should ideally have completed high school graduation requirements by the end of 11th grade, so that their senior year can be spent taking Advanced Placement, college courses, or additional math and science courses.

Furthermore, the college-ready 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, taking national standardized tests, soliciting recommendations, completing a FAFSA form, and identifying sources of financial aid. Successfully navigating this process without support from knowledgeable adults – particularly teachers, counselors, and parents – is difficult. Thus, students without close relationships to 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.

Merely getting high school graduates to the college or university doors is not enough. Without intensive course preparation in high school, degree completion becomes a further challenge, as college requires students to meet demanding academic and social expectations with minimal supervision. And for most students, completing college requires balancing academic demands with ongoing financial obligations, not to mention the social demands of a college campus.

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:

College Enrollment

- How many City Schools graduates enroll in college the fall immediately after graduation?
- What does college enrollment among City Schools graduates look like by gender, free-reduced price lunch status, receipt of special education services, and high school type?
- In which postsecondary institutions do most graduates enroll?
- What types of postsecondary institutions do City Schools graduates attend by high school type?

Degree Completion

- How many City Schools graduates complete postsecondary degrees, and what types of degrees are most common?
- At which institutions of higher education did they earn degrees?
- How many City Schools graduates who first enroll in community colleges transfer to 4-year institutions and earn 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 1). 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 enrollments (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 A: Data Sources and Collection Methods. For a more complete discussion of data processing and analysis techniques, see Appendix B: 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 allow us 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 graduates from 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 1
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 96% of students enrolled in U.S. public and private higher education institutions.
	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 characteristics data on the state of Maryland.
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 relevant to our research questions. To understand trends over time, we present City Schools results for college enrollment in the fall after graduation, the characteristics of students who enroll, as well as the types of institutions students attend, for the Classes of 2007 through 2012. The data also allow us to present degree completion patterns for the Classes of 2004 through 2006.

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

Time-series analysis of college enrollment rates must take into consideration high school graduation rates, which have been increasing in Baltimore since 2007. 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 may reduce college enrollment rates by increasing the overall number eligible for college and changing the composition of a graduating class. (For more detail on enrollment by student and institution characteristics, see Appendix C: Graduation (Leaver Rate) and Fall College Enrollment for the Baltimore City Schools Graduating Classes of 2008 through 2012.)

Table 2
Number and Percentage of City Schools Students Graduating (Leaver Rate*) and Enrollment in College the Fall after Graduation for the Classes of 2007 through 2012

Class	High School Graduates		Fall College Enrollees	
	N	Grad. Rate (Leaver)*	N	%
2007	4,111	60.1	2,008	48.9
2008	4,017	62.7	1,993	49.6
2009	4,277	62.7	2,131	49.8
2010	4,419	65.9	2153	48.7
2011	4,596	71.9	2,152	46.8
2012	4,633	74.0	2,053	44.3

Source: NSC/MSU data, received November 2012; Leaver rate from MSDE, mdreportcard.org

* Leaver Rate is used so there are comparable data for the Classes of 2007 through 2012; cohort graduation rates began with the Class of 2010.

This indeed is what has happened in Baltimore. As Baltimore City graduation rates increased 14 percentage points from 2007 to 2012, college enrollment rates decreased by more than four percentage points (see Table 2). This has implications for interpreting the effects of dropout reduction programs like GKCB. The good news – increased high school graduation rates – is accompanied by what might be construed as bad news – dipping college enrollment rates.

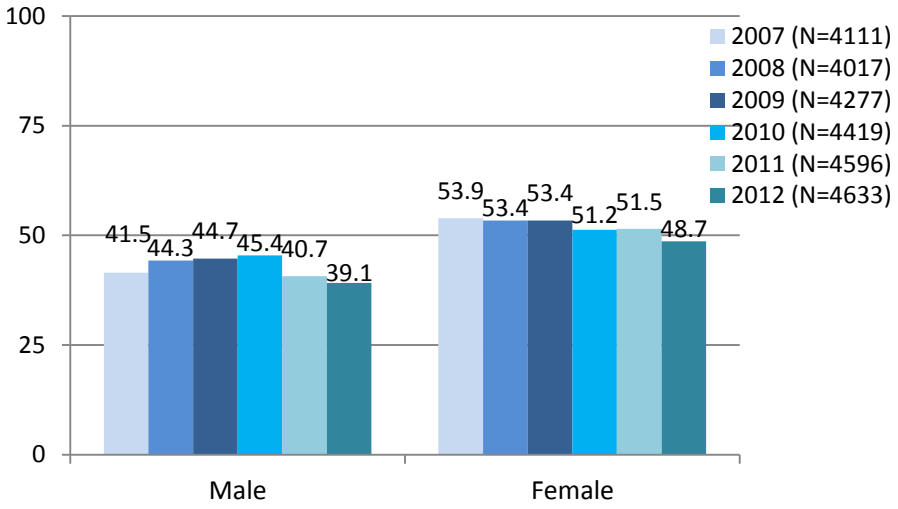
However, the reader is cautioned that the most recent data received from NSC may produce artificially low enrollment numbers, as it will be updated over time to correct for possible reporting errors. Thus, these percentages will increase slightly with time.

Nationally, about 66% of high school graduates enroll in college the following fall (Bureau of Labor Statistics, 2013), while 54% of low-income students generally do so (National Center for Education Statistics, 2011). As evident in the right-hand column of Table 2, on average, about 48% of Baltimore's recent graduating students have enrolled in college immediately after high school graduation.

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

Gender. Consistent with recent national trends in college enrollment, female City Schools graduates enroll at higher rates than males. Nationally in 2012, 71.3% of female graduates enrolled compared to 61.3% of male graduates. Over the last six graduation classes, the City Schools enrollment gender gap has narrowed from 12.4 percentage points for the Class of 2007 to only 5.8 for the Class of 2010, and then risen up to 9.6 percentage points for the Class of 2012 (see Figure 1). Since 2007, the percentage of female graduates enrolling in college the fall after high school has declined by 5.2 percentage points, while the percentage of male graduates enrolling has declined by only 2.4 points.

Figure 1. Percentage of male and female City Schools graduates enrolled in college the fall after graduation for the Classes of 2007 through 2012



Free and Reduced-Price Meal Status (FARM). As shown in Table 3, an exceptionally high share of Baltimore City Schools high school students are eligible for free or reduced-price meals (FARM). The proportion in Baltimore is twice as high as the state average or that of its neighboring district of Baltimore County. The percentage of students qualifying for FARM has increased in recent years. This may be explained by two factors. First, the district has promoted

an effort to increase the number of high school students who turn in eligibility applications, and second, given the harsh economic climate of the past five years, more families likely qualify.

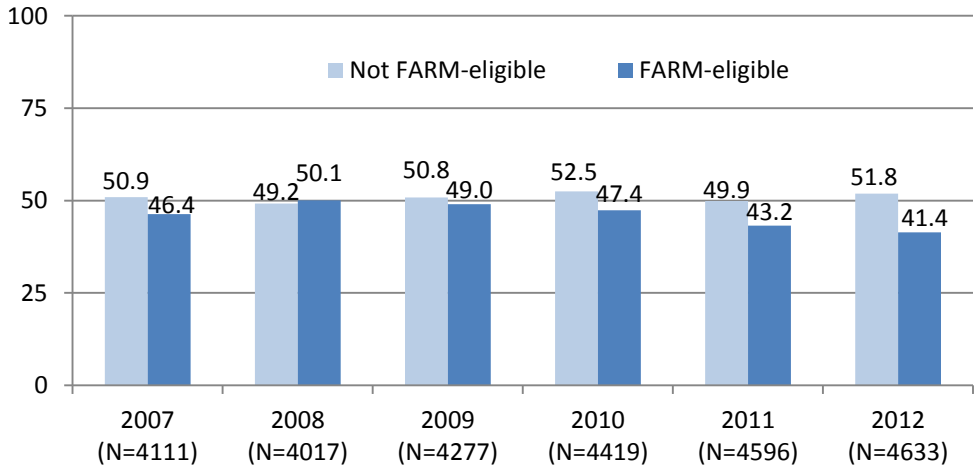
Table 3
Percentage of High School Students Eligible for Free or Reduced-Price Meals (FARM) in Maryland, Baltimore County, and Baltimore City

	Maryland	Baltimore County	Baltimore City
2007	24.1	26.6	50.7
2008	25.4	27.2	52.6
2009	28.1	31.1	60.7
2010	32.4	35.6	71.5
2011	34.0	38.4	69.4
2012	35.3	40.0	75.9

Source: MSDE, mdreportcard.org

The share of FARM-eligible graduates who enrolled at a postsecondary institution the following fall was 46.4% for the Class of 2007, 49.0% for the Class of 2009, but fell to 41.4% for the Class of 2012 (see Figure 2). The proportion of not FARM-eligible students enrolling in the fall has been more stable, ranging between 49% and 52%, a reverse of the district's overall pattern, and worthy of continued investigation as to who these students are and what choices they are making. The declining rate of college enrollment among FARM-eligible graduates mirrors that of City Schools graduates and likely reflects the increasing economic challenges facing lower-income Baltimore families in recent years. The lower rate of FARM-eligible students enrolling does raise the question of the availability and access to financial aid, including Maryland options provided through MHEC, as well as the reasons for "summer melt" when students accepted into colleges do not enroll.

Figure 2. Percentage of FARM-eligible and not FARM-eligible City Schools graduates enrolled in college the fall after graduation for the Classes of 2007 through 2012.



Special Education Services. The percentage of students in Baltimore City receiving special education services is higher than what it is for Baltimore County, or the state of Maryland. One-sixth of Baltimore public high school students receive special education services (see Table 4).

Table 4
Percentage of High School Students Receiving Special Education Services in Maryland, Baltimore County, and Baltimore City in 2006-07 through 2011-12

	Maryland	Baltimore County	Baltimore City
2007	10.9	10.0	17.1
2008	12.5	10.6	16.9
2009	10.3	9.8	14.7
2010	10.7	10.6	16.6
2011	10.9	10.5	16.7
2012	10.6	10.0	16.6

Source: MSDE, mdreportcard.org

Between 2007 and 2012 the percentage of graduates with special education status increased more than that for students not receiving special education services. The graduation rate for students receiving special education services has increased almost 16.5 percentage points, whereas for regular students it has increased by just over 14 percentage points (see columns 1 and 2, Table 5). Further, the share of each graduating class who received special education services has increased 2.5 percentage points since 2007 likely reflecting the GKCB initiative to increase graduation rates for student who previously may have dropped out (column 3, Table 5).

Table 5
Graduation Rate (Leaver Rate*) of City Schools Students by Receipt of Special Education Services for the Classes of 2007 through 2012

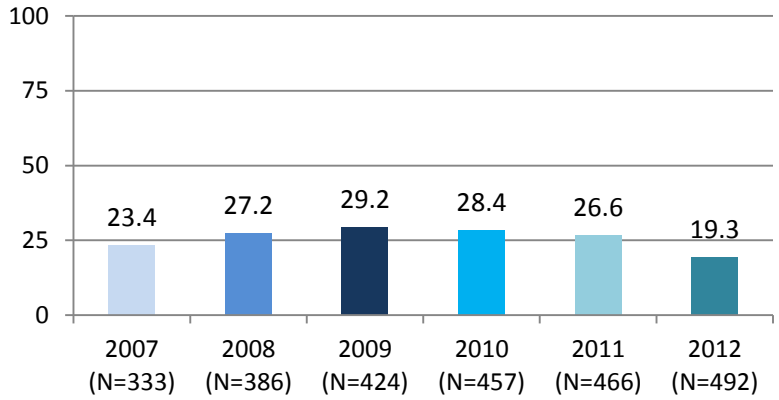
	Graduation Rate		
	Receive Spec. Ed	No Services	% Grads Receiving Special Education
2007	35.8	63.9	8.1
2008	38.9	67.0	9.6
2009	39.4	67.3	9.9
2010	42.3	70.4	10.3
2011	46.8	76.5	10.1
2012	52.2	78.0	10.6
6-year change	+16.4	+14.1	+2.5

Source: MSDE, mdreportcard.org, City Schools student data.

* Leaver Rate is used so there are comparable data for the Classes of 2007 through 2012; cohort graduation rates began with the Class of 2010.

Among City Schools graduates from the Classes of 2007 through 2012 who received special education services, between 19% and 29% enrolled in college in the fall after graduation, with a decrease in recent years mirroring the trend seen for the district as a whole; the smaller percentages may be explained by the rise in graduates meeting diploma requirements, but who may have limited interest in postsecondary options (see Figure 3).

Figure 3. Percentage of City Schools graduates receiving special education services in the last year of high school who enrolled in college the fall after graduation, Classes of 2007 through 2012.

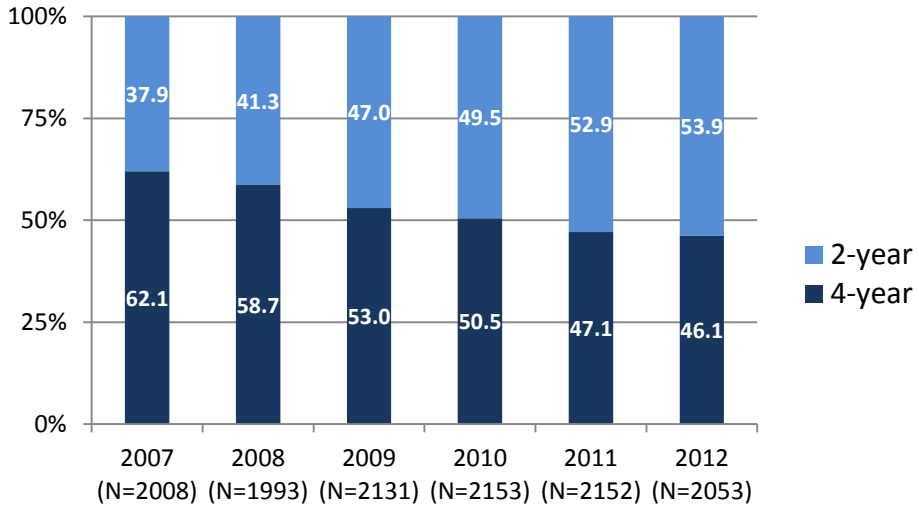


What types of postsecondary institutions do City Schools graduates attend?

2-Year versus 4-Year College Enrollment. Over time, Baltimore City Schools' graduates are less likely to enroll in 4-year institutions the fall after graduation. For the two most recent cohorts, the majority of enrollments were in 2-year institutions. For the Class of 2011, 47.1% of fall enrollees attended 4-year colleges, decreasing to 46.1% for the Class of 2012 (see Figure 4).

The trend of choosing 2-year over 4-year postsecondary institutions is a phenomenon that is hardly isolated to Baltimore. According to a recent national report by College Board, between 2005 and 2010 (the latest year for which data were available), enrollments at 2-year institutions increased faster than those at 4-year schools. Whereas historically, enrollment at 4-year schools had been the norm, the probability of enrolling at one type or the other is now nearly evenly split. This phenomenon is partly explained by rising college tuition costs at many state-funded 4-year universities, which has increased across the country due to shrinking budgets and falling state appropriations for higher education (College Board, 2012).

Figure 4. Percentage of students enrolled in college the fall after graduation who enrolled in 4-year or 2-year institutions, Classes of 2007 through 2012.



In a later report we will analyze and report on whether the most academically-oriented students are choosing to attend 4-year colleges while more career-focused students are choosing 2-year colleges, or if students who otherwise could attend 4-year colleges are, due to some combination of reasons, enrolling in 2-year colleges. Further research is needed to uncover the process behind students' college choices. At this point, however, we can consider several possible explanations for the recent preponderance of 2-year enrollments.

Two-year colleges appeal to prospective students for several reasons: They are *open door* institutions with no admission criteria, they are often close to home, and they may require less of a time commitment – part-time study is more normative and full-time students can finish in two years (College Board, 2010). Furthermore, financial considerations are especially salient considering the harsh economic climate of recent years and relatively high levels of poverty among Baltimore families.

In just the past six years, tuition at public 4-year schools has increased over 14%, from $6,614 to $7,579 (National Center for Education Statistics, 2006; National Center for Education Statistics, 2012). While the average cost of enrolling at a 2-year college has increased at nearly the same rate (from $1,849 to $3,237 in six years), it remains only *half* as costly as enrolling at a 4-year school. Attending a 2-year school is an attractive option; since in theory it allows students to earn the basic lower-level credits they need towards a 4-year degree, but at a fraction of the price. Also, completing a 2-year degree provides a useful asset in the labor market when it offers certification in specific technical skills.

The utility of choosing a 2-year or 4-year school is related to students' goals and finances, but we do know that few of the 2-year enrollees have gone on to earn degrees (see Table 7). Reviewing published data on degree completion from sources like IPEDS and this report should also be a consideration in that decision process. College choice is a decision that will affect later debt burden, opportunities for career, competitiveness on the job market, and one's salary over a lifetime. The results presented here suggest that students should balance short-term financial

concerns with long-term prospects when they make this decision; thus a great deal of coordination and guidance is necessary.

In which postsecondary institutions do City Schools graduates enroll?

As seen in Table 6, the institutions into which most City Schools graduates enroll has changed over the last few years. The biggest change was the switch from Baltimore City Community College (BCCC) to the Community College of Baltimore County (CCBC) where most students now enroll. Since 2007, the number of students enrolled in CCBC more than doubled from 245 to 671 while enrollment in BCCC declined from 450 to 319.

Table 6
Number of Students Enrolled in College Fall after Graduation
by Higher Education Institution and Graduating Class

	Graduating Class					
	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Comm. Coll. of Balt. County	245	309	433	603	606	671
Balt. City Comm. College	450	427	443	363	415	319
Morgan State University	123	147	152	166	143	131
Coppin State University	156	178	162	144	159	116
U of MD - Eastern Shore	140	89	68	84	61	66
U of MD - College Park	61	45	33	34	28	48
U of Baltimore	24	37	50	35	17	45
Frostburg State University	52	55	45	37	40	44
Bowie State University	79	77	47	40	49	41
Stevenson University	40	16	19	61	35	40
Towson University	118	92	80	57	61	36
Anne Arundel Comm. Coll.	5	12	21	12	28	23
Allegany College Of MD	--	--	--	12	27	21
McDaniel College	--	--	12	10	19	19
Johns Hopkins University	20	14	13	--	14	16
West Virginia University	12	--	26	14	--	15
Garrett College	--	--	--	--	--	14
U of MD - Balt. County	18	22	18	17	14	14
ITT Technical Institute	19	30	33	28	21	13
College Of Notre Dame of MD	--	20	13	12	16	12
Delaware State University	--	16	17	16	20	10
St Mary's College of MD	14	13	13	--	18	10
Total Enrolled	**2008**	**1993**	**2131**	**2153**	**2152**	**2053**

Source: NSC/MSU data, received November 2012
-- fewer than 10 students

For 4-year institutions, enrollment by institution has remained fairly stable with Morgan and Coppin State rotating between the top two positions and with University of Maryland, Eastern Shore and Towson shifting for the third position. Towson's enrollment appears to be the most volatile, from year to year.

What types of postsecondary institutions do City Schools graduates attend by high school type?

There are several types of public high schools in Baltimore City (See Appendix D: Baltimore City Schools Classification by Year for a complete list of high schools by category):

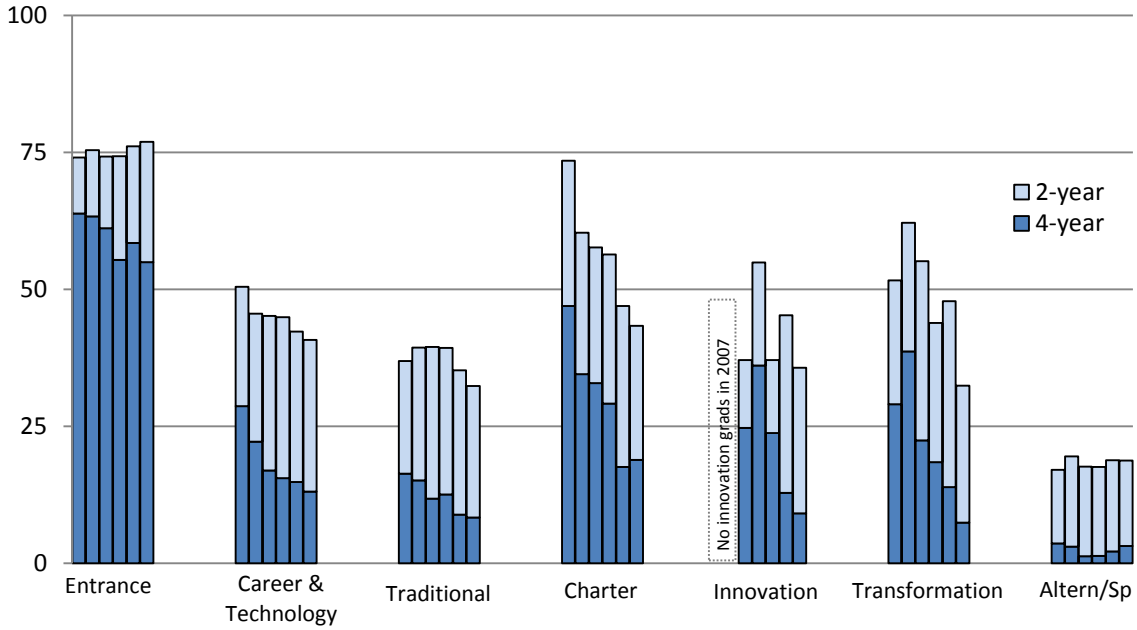
- *Entrance criteria schools* customarily serve students from the entire city and generally feature a comprehensive curriculum. However, to be accepted, students must reach certain thresholds on the grade 7 Maryland State Assessment (MSA), have a high attendance rate in grade 8, and have competitive 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.
- *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.
- *Charter schools* are externally operated public schools of choice, without entrance criteria. 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), are externally operated, 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 in the fall after high school between 2007 and 2012; about three quarters enrolled in college with the majority enrolling at 4-year institutions and around 15-20% choosing 2-year institutions (see Figure 5). College enrollment rates have remained stable for students from Entrance Criteria schools.

Enrollment among graduates of Career-Tech high schools decreased between the Classes of 2007 through 2012 (from 50% to 40%), with the majority currently electing for 2-year colleges. These changes mirror what is happening in the district as a whole. Graduates of Traditional high schools enrolled in college at a somewhat lower rate than the Career and Technical schools, and for recent cohorts, less than 10% have enrolled in 4-year schools. About 18% of graduates from

Alternative and Special Education schools have enrolled in college the following fall, with the majority choosing 2-year institutions.

Figure 5. Percentage of City Schools graduates enrolled in college the fall after graduation, by high school type for the Classes of 2007 through 2012.



The pattern of college enrollment across graduating cohorts of Charter, Innovation and Transformation schools has been the least stable. This may be due to the fact that these high school categories do not contain the same schools from year to year, making it difficult to interpret the trend data.

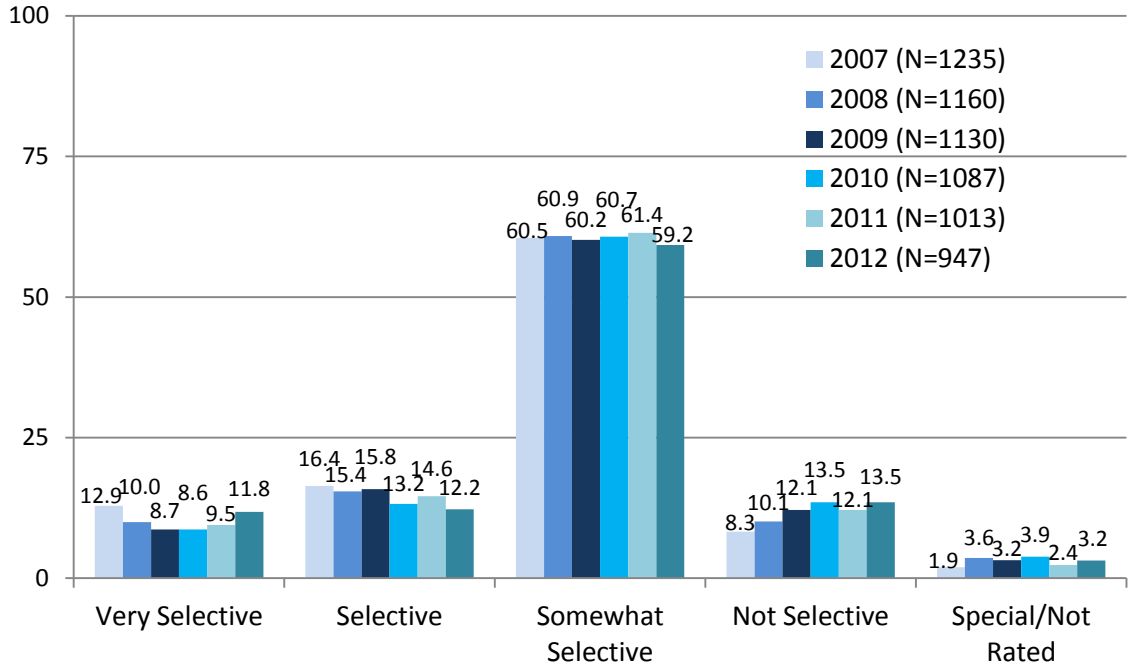
Selectivity of colleges at which students enroll. Trends in the Barron's selectivity ratings of the 4-year colleges at which City Schools graduates enrolled in the fall after high school can be seen in Figure 6 (Integrated Postsecondary Educational Data System [Barron's Ratings], National Center for Education Statistics, 2009). Barron's selectivity categorizes students by the high school ranking of incoming freshman and the percent of applicants accepted. Some examples of colleges by selectivity:

- *Very Selective* include Johns Hopkins University and the University of Maryland, College Park
- *Selective* include Towson University and University Of Maryland, Baltimore County
- *Somewhat Selective* are Bowie State University, College Of Notre Dame Of Maryland, Coppin State University and Morgan State University
- *Not Selective* include University of Baltimore and ITT Technical Institute

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. Between 9% and 12% attended *very selective* 4-year schools. The remainder enrolled in 4-year colleges that were *selective or*

not selective, with a slightly increasing proportion electing *not selective* and a slightly decreasing proportion choosing *selective* between 2007 and 2012. Notably, the number and proportion of students attending *somewhat selective* 4-year colleges has been the most stable.

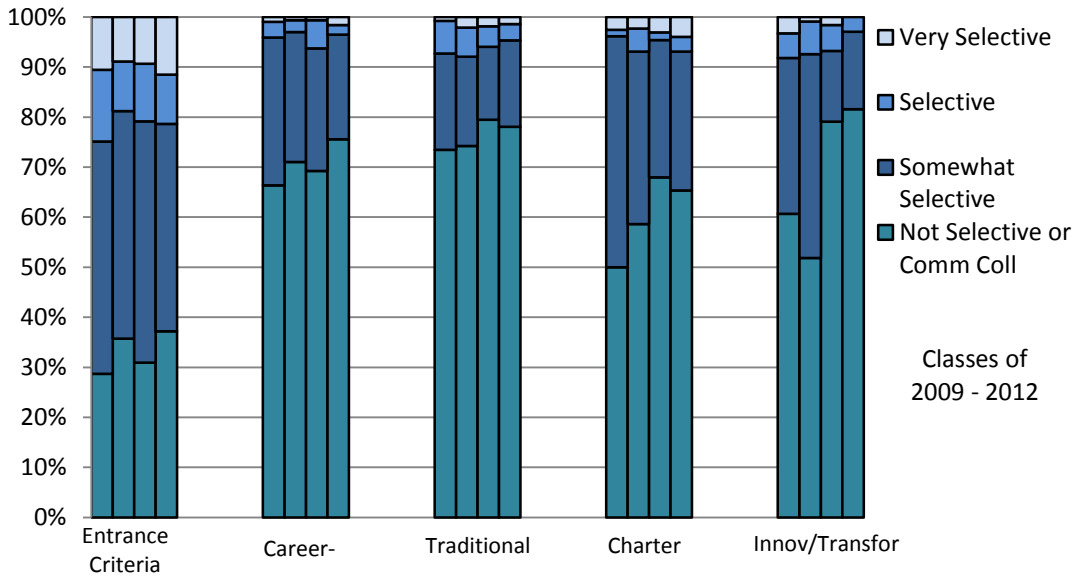
Figure 6. Percentage of City Schools graduates enrolled the fall after graduation at 4-Year institutions, by Barron's selectivity ratings for the Classes of 2007 through 2012.



Given that certain types of high schools attract students with different interests and career aims, we also explored whether high school type was related to the selectivity or competitiveness of those graduates' fall college choice. For instance, schools with entrance criteria attract students whose school histories may suggest they are more academically oriented than graduates who went to traditional high schools. A natural conclusion is that the postsecondary institutions with the most competitive entrance criteria would be more appealing to students at college preparatory high schools.

Figure 7 shows there is indeed a relationship: Graduates of Entrance Criteria high schools were consistently more likely to enroll at a *very selective* or s*elective* postsecondary school than were graduates of other high school types (Note that graduates of Alternative and Special Education high schools were excluded from the analysis, since over time they have predominately chosen community colleges and technical schools). What is most evident in Figure 7 is the predominance of enrollment at *non selective* institutions or community colleges across most high school types, as well as its increasing popularity between 2009 and 2012. Even among graduates of Entrance Criteria high schools, a majority enroll at *non-selective* and *somewhat selective* institutions the following fall.

Figure 7. Barron's selectivity ratings of postsecondary institutions enrolled the fall after graduation, by high school type for the Classes of 2009 through 2012.



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, or why students end up attending the colleges that they do, whether it's a result of deliberate counseling, practical concerns, or something else. Further research is needed to uncover the motivations driving students' college choices.

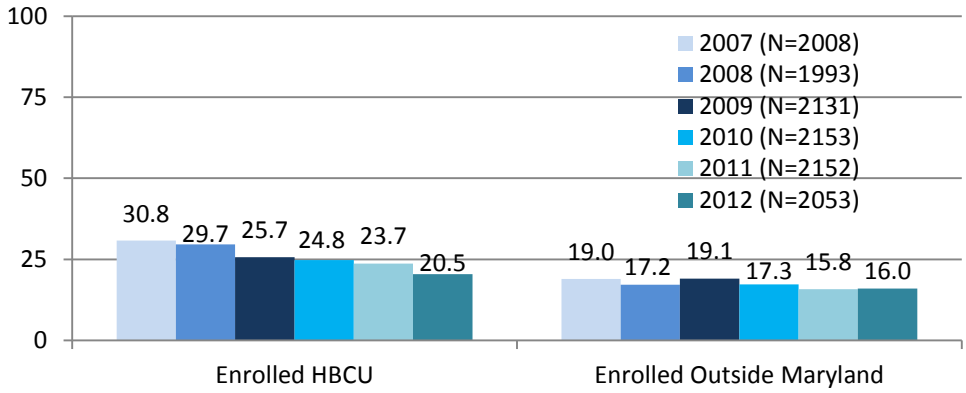
See Appendix E: Most Frequently Fall-Enrolled* Institutions of Higher Education Attended by City Schools Students from the Class of 2012 for a list of local colleges by selectivity, as well as the criteria by which colleges' selectivity ratings are based.

Out-of-State and HBCU Enrollment. Among the most recent graduating cohorts, about one-fifth chose Historically Black Colleges and Universities (HBCU). This figure has decreased over time, from 30.8% for the Class of 2007 to 20.5% among the most recent class. Part of this

decrease may be explained by the decreasing enrollment at 4-year colleges, since the majority of HBCUs are 4-year institutions.

There has been a smaller decline in the percentage of students opting for out-of-state postsecondary institutions (see Figure 8) which may reflect the trend of graduates preferring 2-year institutions.

Figure 8. Percentage of City Schools graduates enrolled the fall after graduation choosing Historically Black Colleges and Universities and Out-of-State Colleges, Classes 2007 through 2012.



Degree Completion

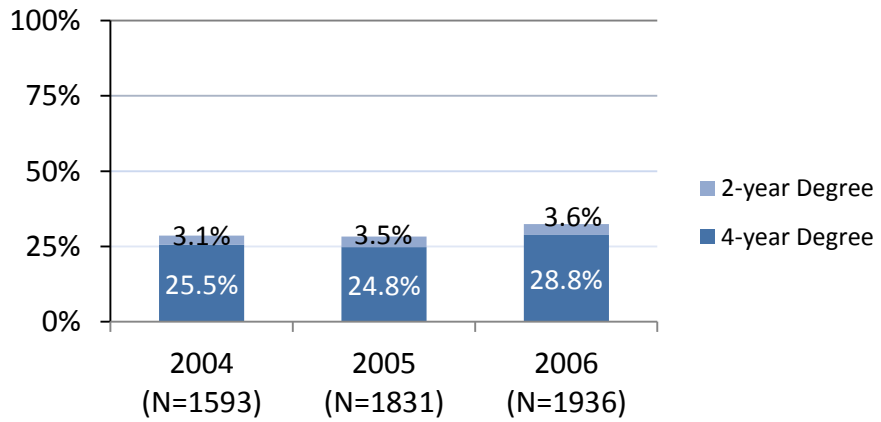
From this point forward this report will focus on degree completion for those students who enrolled the fall after high school graduation. We calculated degree completion rates for the Classes of 2004 through 2006, allowing six years for the degree to have been granted. The majority of students in the Classes of 2004 through 2006 enrolled in 4-year colleges (55.6%, 56.1%, and 60.9%, respectively).

How many City Schools graduates complete postsecondary degrees?

Among City Schools graduates who enrolled in college that first fall, 28.6% of the Class of 2004, 28.3% of the Class of 2005 and 32.4% of the Class of 2006 graduated with a degree after six years. The vast majority of the degrees earned were 4-year degrees, with approximately 4% earning a 2-year degree. There is an upward trend in degree completion among City Schools graduates beginning in 2006 (see Figure 9).

As included in our previous report (Durham and Westlund, 2011) students enrolling in college immediately after high school complete degrees more often than peers who enroll at a later point in time. Among the Class of 2005, 28.3% of students who enrolled the next fall earned a degree, while their classmates who enrolled later but not during the fall after high school finished degrees at the much lower rate of 7.6%. For the Class of 2006, the corresponding figures are 32.4% compared to 8.4%.

Figure 9. Percentage of City Schools Graduates completing degrees (2- and 4-year degrees) among those enrolled the fall after graduation, Classes 2004 through 2006



The type of student who enrolls in college immediately after graduation is likely to be different than the 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 also possible that being disconnected from academic life for a period of time 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 were 64% less likely to graduate college, even when controlling for socioeconomic and academic factors (Bozick & DeLuca, 2004). This figure is consistent 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.

At which institutions of higher education?

Students who enrolled in 4-year colleges the fall after graduation were much more likely to complete a degree than students first enrolled in 2-year institutions (see Table 7). For the Classes of 2004, 2005, and 2006, between 41% and 44% of students enrolling in 4-year colleges completed a 4-year degree. Students who initially enrolled in 2-year colleges were four times less likely to complete any degree, with only 7-8% earning a 2-year degree and 3-5% earning the 4-year degree.

Table 7
Percentage of Graduates Completing Degrees by First Enrolled Institution
Fall after Graduation, 2-Year versus 4-Year

Class of	Institution Type	2-Yr Degree %	4-Yr Degree %	Any Degree* %
2004	2-Yr (N=707)	7.1	4.2	10.0
	4-Yr (N=886)	1.4	42.4	43.5
2005	2-Yr (N=797)	6.7	3.3	9.0
	4-Yr (N=1019)	2.0	40.5	42.3
2006	2-Yr (N=752)	8.1	4.5	11.1
	4-Yr (N=1173)	2.0	43.7	45.4

Source: NSC data, received November 2012 (2005-2006) NSC data, received January 2011 (2004)
*Some students earned both 2-year and 4-year degrees.

Approximately 10% of City Schools graduates who first enrolled in a 2-year college finished any degree. In contrast, approximately 45% of those who started in a 4-year college completed degrees. Both nationally and in City Schools data, it is clear that students who enroll in 2-year colleges are far less likely to complete *either a* 4-year *or* 2-year degree. According to national statistics, 27.8% of full-time freshmen who entered public 2-year institutions in 2004 earned a degree within three years, whereas for freshmen entering 4-year institutions, the completion rate was 58.3% (National Center for Education Statistics, 2011).

Degree completion rates for specific postsecondary institutions with the highest fall enrollment are provided in Table 8. Again, degrees are credited to the institution in which the student began their postsecondary studies. 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] Institutions with higher degree earning rates than IPEDS for the Class of 2006 are shaded.

Table 8
Number of First Fall Enrolled City Schools Graduates and Percentage Receiving Degrees after Six Years by First Enrolled Institution for the Classes of 2004 through 2006 Including IPEDS Rates, Sorted by Highest Enrollment 2006

	2004		2005		2006		
Most Often Enrolled Institutions	Enrolled fall after Grad (N)	Earned Degree† (%)	Enrolled fall after Grad (N)	Earned Degree† (%)	Enrolled fall after Grad (N)	Earned Degree† (%)	IPEDS Full-time Entering in 2005^
Balt. City Comm. College	358	4.8	417	4.3	415	5.3	5.0
Comm. College of Balt Cnty	317	8.2	334	8.1	274	9.5	10.0
Coppin State University	171	21.1	205	20.0	148	20.3	15.0
Towson University	38	57.9	151	41.7	146	47.3	64.0
Morgan State University	177	23.7	74	13.5	144	27.8	28.0
Univ. of MD-Eastern Shore	68	42.7	88	30.7	124	39.5	31.0
Bowie State University	60	41.7	56	39.3	85	41.2	41.0
Univ. of MD-College Park	44	68.2	57	66.7	56	66.1	82.0
Frostburg State University	20	55.0	30	36.7	45	33.3	45.0
Stevenson University	33	36.4	28	57.1	35	48.6	62.0
Univ. of MD -Balt County	--	--	20	50.0	22	54.6	57.0
Johns Hopkins University	--	--	21	95.2	19	89.5	91.0
Salisbury University	--	--	14	71.4	11	72.7	67.0
Anne Arundel Comm. Col.	--	--	--	--	11	9.1	13.0
Notre Dame of Maryland	15	73.3	10	30.0	10	30.0	48.0
Total Students¥	**1,593**	**28.6**	**1,831**	**28.3**	**1,936**	**32.4**	**-**

† If a 2-year institution, 2 year degree is reported; 4-year degree reported otherwise.
¥All 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 freshmen students entering in 2005 who completed their degree program within 150% of the expected time frame 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 data, received November 2012 (2005-2006) NSC data, received January 2011 (2004); Freshmen graduation rate from the Integrated Postsecondary Education Data System, National Center for Education Statistics, 2012.

Increased attention to degree completion has led to public releases of national college degree completion rates. These data can be found in the Integrated Postsecondary Education Data

[1] One study using the Beginning Student 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.

System (IPEDS) and are based upon the number of enrolled full-time 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, 2005-2012). In Table 8 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 City Schools high school graduates since the IPEDS data follow cohorts of freshmen who enrolled full time and stay at that school, and do not report on degrees earned later, regardless of where they were received, as we do here.

Five colleges accounted for approximately 60% of all fall enrollments among City Schools' Class of 2006. These are Baltimore City Community College (BCCC), Community College of Baltimore County (CCBC), Coppin State, Towson, and Morgan State University. For the prior class, the Class of 2005, these five institutions accounted for nearly 65% of fall college enrollments, and for the Class of 2004, they accounted for 67%. Thus the postsecondary success of the majority of college-going City Schools graduates hinges on these five institutions. It is instructive, then, to consider the degree completion rates of students choosing these schools.

After six years, approximately 5% of students beginning college at BCCC later completed a degree (as shown in Table 8). This is similar to the overall rate for all BCCC freshmen as reported in IPEDS, which may reflect the fact that City Schools graduates represent a substantial proportion of the student body. Likewise, students who began at CCBC completed degrees at a similar rate as all CCBC freshmen, where approximately 9% completed a degree.

For students starting at 4-year institutions, around one-fifth who first enrolled at Coppin State later completed a degree, a rate higher than the 15% reported in IPEDS. Overall, 64% of entering freshmen at Towson University complete degrees, ranging from 42 to 58% for different Classes, lower than the IPEDS rate of 64%. Students who began their studies at Morgan completed degrees at a rate between 14% and 28%, the latter of which matches that reported for all Morgan State freshmen in IPEDS.

Too often, the majority of entering students at BCCC and CCBC are placed into remedial (non-credit-bearing) classes. According to the Student Outcome and Achievement Report released by the Maryland Higher Education Commission, students graduating in 2004 and who enrolled in BCCC and CCBC in 2004-05, our earliest cohort, required remediation at high rates. For example, around 90% of students entering BCCC and 25% of those entering CCBC were assessed as needing remediation in math, 60% and 30% for English, and 70% and 30% for reading, respectively. (MHEC, 2006; Abell, 2002; and Abell, March 2002).

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 and will be addressed in a BERC study examining student trajectories into college.

How many graduates who first enroll in community colleges transfer to 4-year institutions and earn degrees?

Some students choose to begin their postsecondary studies at 2-year colleges in order to earn credits toward a 4-year degree at a lower cost, so we explored this possibility in each of the three cohorts of students. We found that among all City Schools graduates from Classes of 2004 through 2006 who started at a 2-year college, only between 3 and 5% had earned a bachelor's degree after six years (see Table 9).

Table 9
Number and Percentage of City Schools Graduates Enrolling in 2-Year Schools in the Fall after High School Graduation Who Later Transferred and Received 4-Year Degrees in Six Years

	2004		2005		2006	
Most Often Enrolled 2-year Institutions	Enrolled fall after Grad (N)	Earned 4-Year Degree (%)	Enrolled fall after Grad (N)	Earned 4-Year Degree (%)	Enrolled fall after Grad (N)	Earned 4-Year Degree (%)
Balt. City Comm. College	358	3.4	417	2.6	415	4.8
Comm. College of Balt. Cnty	317	4.7	334	3.0	274	2.9
Anne Arundel Comm. Coll.	--	0.0	--	12.5	11	9.1
Howard Cnty Comm. Coll.	--	--	--	--	--	--
Total Students[¥]	**707**	**4.2**	**797**	**3.3**	**752**	**4.5**

[¥]All 2-year institutions attended by Baltimore graduates are included in these totals
Source: NSC data, received November 2012 (2005-2006); NSC data, received January 2011 (2004).
-- fewer than 10 students

As previously mentioned, more research is necessary before we can draw conclusions about why City Schools graduates choose the colleges they do, but it is somewhat troubling that over time, more graduates are beginning their studies at 2-year institutions—institutions that do not have a strong track record for degree completion among similar cohorts. This finding points to a need for more research concerning students' postsecondary and career goals, as well as an investigation into students' guidance and decision process.

Discussion and Recommendations

Graduation rates among City Schools students have increased almost 14 percentage points over the last six years. Generally, graduation rates increase as struggling students are given extra support to help them meet missing diploma requirements. Consequently, improving high school graduation rates may reduce college enrollment rates by increasing the overall number eligible for college and changing the composition of a graduating class. This may be accompanied by a decline in college enrollment as these students may have a more limited interest in continuing their academic career.

More students are choosing to enroll in 2-year colleges. This continuing shift towards 2-year institutions warrants further investigation, especially because it has serious implications for future degree completion. Approximately 10% of City Schools graduates who first enrolled in a 2-year college finished any degree. In contrast, approximately 45% of those who started in a 4-year college completed degrees. Both nationally and in City Schools data, it is clear that students who enroll in 2-year colleges are far less likely to complete *either* 4-year *or* 2-year degrees. Counselors, parents and students should all aim for the most selective institution possible within the range of schools that best fit a student's skills, interests, and aims.

Other studies suggest that, students who start at community colleges are less likely to finish 4-year degrees than those who enter directly into 4-year colleges, even after controlling for prior academic ability, socioeconomic status, and students' educational aspirations (Long & Kurlaender, 2009), and we are seeing the same thing in Baltimore.

Recommendations

- It could be enlightening and beneficial for BERC and City Schools (as well as other partners, as appropriate) to pursue additional research to address the questions raised in this report and to understand students' motivations, choices and barriers to success in college. Also of interest is the need for remediation on arrival at college. Using data from the Maryland Higher Education Commission (MHEC) a next planned study will examine the academic trajectories of City Schools graduates into 2- and 4-year college. Input from City Schools staff as well as colleagues from the MHEC and other local institutions of higher education will be an essential part of BERC's ongoing research.

- City Schools should collect data on student career and college expectations prior to graduation. This information will let us know if students enrolled in a 2-year college plan to transfer to a 4-year institution, complete a certificate, or earn an AA degree.

- Because rates of college degree completion are highest for students enrolling the first fall after graduation, MSDE should consider publishing both first fall enrollment and 16-month enrollment as part of the state's accountability system. That will allow future researchers to examine degree completion rates for students who delay or do not delay enrollment into college.

- Researchers working with City Schools and other agencies need to better understand "summer melt" whereby students accepted to college fail to enroll the following fall. This

phenomenon may be responsible for the lower than expected college enrollment rates characterizing particular Baltimore high schools (e.g., some of the city's Entrance Criteria high schools).

- Research from other locales has suggested that part of the "summer melt" occurs when students are unable to finalize their finances for tuition, room and board. Such details need to be better understood for Baltimore and Maryland, however. The new MHEC online, automated financial aid program has been an important improvement for students across the state, but the system has been a challenge for some City Schools graduates who could potentially benefit the most: those who are first time awardees, low income, and first generation college-goers. City Schools and MHEC should continue to work together and find ways to make the process smoother for City School graduates.

- City Schools explore the feasibility of collecting data on which students are (or would be) first generation college-goers. This information, if collected in middle or early high school, could guide support for students through the college selection and application process, financial documentation obligations, and other potential barriers.

- City Schools counseling and school staff need to be aware of the low degree completion rates for students enrolling in 2-year institutions, and the financial challenges that this path may produce.

- We (BERC and City Schools) currently have no information about postsecondary certificate completion. Occupation- or skill-relevant certificates, as well as the emerging phenomenon of micro-credentialing through badges, are important parts of the postsecondary landscape. BCCC and CCBC should be encouraged to provide these data to NSC so they can be used in future reporting and provide a more nuanced picture of City Schools graduates' success.

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Appendices

Appendix A: 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/. Data on school and citywide graduation rates, as well as student population characteristics, were obtained 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 3,400 colleges, institutes and universities participate with the NSC, capturing 96% of all students enrolled in public and private colleges 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 complete information on 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).

One challenge associated with NSC data 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, high school codes, and birthdates (in some cases Social Security Numbers); thus, the data returned to the school district may contain errors. These errors may occur when the information a college provides for a student is different from that submitted 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.

These challenges make NSC a dynamic database, even though data on the same graduating classes are reported over time. City Schools has solicited enrollment data from NSC for several years, and BERC has assisted in the analysis of this data since 2009. In 2012, BERC began comparing the data files received from NSC over time and determined that there were a relatively small number of instances where no enrollment was reported in the most recent (November 2012) NSC file, but earlier NSC files (2009, 2010) did show postsecondary enrollments. There were also instances where previously reported degrees had been excluded

from the newest data release, even though earlier NSC files had indicated otherwise. In order not to lose these earlier data, BERC analysts elected to assign a status reflecting information received over all current and previously received NSC data, in effect creating a cumulative status (i.e., fall enrollment, the college attended in the fall, and degree completion status).

The current accounting of enrollment during the fall semester after high school graduation includes indications of fall enrollment from previous NSC files even if there is no indication of fall enrollment in the current file. Being enrolled the fall after high school is also assumed if any NSC records, past or present, indicate 4-year degree completion within four years of graduation even if one or more of the NSC records does not indicate fall enrollment. These students are not included in tables identifying that first fall institution.

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. At the current time, Morgan State is reporting enrollment to NSC not only for the most recent freshmen classes, but also for previous years. We use the data received from Morgan to supplement and cross-check enrollment at Morgan with that reported by NSC. It is not clear the extent to which other colleges and universities that enroll Baltimore graduates are not counted by NSC.

Baltimore City Public Schools Office of Achievement and Accountability (OAA) provides student level data on City Schools graduates to NSC to match postsecondary institutional records. It is also used to help complete the special education status and demographic profile of City School students and 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 statistics concerning national high school graduation rates and student demographics [http://nces.ed.gov/ipeds/datacenter/]

Bureau of Labor Statistics (BLS) provides data on education when its connection to employment is of direct concern, derived from the U.S. Census and Current Population Survey data.

Appendix B: Data Processing and Methods of Analysis

Identifying Fall College Enrollees

The NSC data is capable of providing enrollment and degree completion information for eight consecutive cohorts of graduates (2005 through 2012). We followed a standard procedure to classify fall enrollment. Fall enrollees were identified in either the NSC data (current or previous returns) or in Morgan State University's (MSU) enrollment files, received directly from the Institutional Research Office (IRO) 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 fall high school graduation. Students who did not enroll before or during the fall after they graduated from high school were excluded from fall enrollees.

Being enrolled the fall after high school is also assumed if any NSC records, past or present, indicate completion of a 4-year degree within four years of graduation even if one or more of the NSC records does not indicate fall enrollment. These students are not included in tables identifying that first fall institution.

Morgan State began to participate with the NSC in 2011. At that point, they not only submitted enrollment and degree completion data to NSC for the most recent entrants, but for previous freshmen cohorts as well. We use the NSC data concerning MSU as a primary indicator of fall enrollment but supplement this with data received directly from MSU's IRO at an earlier time, to cross check for accuracy. One challenge in using the older MSU IRO data is that it does not distinguish between fall and spring enrollment. In those instances when MSU IRO data are used, we categorize all students enrolled at MSU at some point during the year 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.

Degree Completion Data

The NSC/MSU data on college degree completion are calculated for six years. This allows for students to complete degrees through the summer six years after their fall enrollment.

For students who earned a 4-year degree within four years of graduation with no first fall enrollment record in NSC are included in degree completion analysis. These students are not included in tables identifying that first fall institution, as we have no record indicating the actual institution.

Appendix C: Graduation (Leaver Rate) and Fall College Enrollment for the Baltimore City Schools Graduating Classes of 2008 through 2012

	2012 Graduates		2011 Graduates		2010 Graduates		2009 Graduates		2008 Graduates	
Graduation Rate (Leaver)*	74.0		71.9		65.9		62.7		62.7	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of *Diploma* Graduates	4633		4596		4419		4277		4017	
Enrolled in college fall following graduation	2053	44.3	2152	46.8	2153	48.7	2131	49.8	1993	49.6
2-Year Compared 4-Year										
Enrolled in a 4-Year College	947	46.1	1013	47.1	1087	50.5	1130	53.0	1160	58.2
Enrolled in a 2-Year College	1106	53.9	1139	52.9	1066	49.5	1001	47.0	817	41.0
Special Colleges										
Enrolled in Historically Black College	420	20.5	511	23.8	534	24.8	548	25.7	591	29.7
Enrolled outside of Maryland	328	16.0	340	15.8	373	17.3	407	19.1	343	17.2
Analysis of Graduates Enrolled in 4-Year Colleges in the Fall										
Number enrolled in 4-Year College	947		1013		1087		1130		1160	
Very Selective	96	10.1	82	8.1	86	7.9	85	7.5	102	8.8
Selective	116	12.3	148	14.6	144	13.2	179	15.8	179	15.4
Somewhat Selective	561	59.2	622	61.4	660	60.7	680	60.2	706	60.9
Not Selective	128	13.5	123	12.1	147	13.5	137	12.1	117	10.1
Other	46	4.9	38	3.8	50	4.6	49	4.3	56	4.8
Sub-Group Analysis										
Number of Male Graduates	2111		1989		1907		1757		1675	
Male fall college enrollment	826	39.1	810	40.7	866	45.4	786	44.7	742	44.3
Number of Female Graduates	2522		2607		2512		2520		2342	
Female fall college enrollment	1227	48.7	1342	51.5	1287	51.2	1345	53.4	1251	53.4
Number of Special Ed *Diploma* Graduates	492		466		457		424		386	
Special Ed fall college enrollment	95	19.3	124	26.6	130	28.5	124	29.3	105	27.2
Number of African-American Graduates	4209		4204		4037		3897		3648	
African-American college enrollment	1865	44.3	1968	46.8	1955	48.4	1915	49.1	1796	49.2

continued

Appendix C: Graduation (Leaver Rate) and Fall College Enrollment for the Baltimore City Schools Graduating Classes of 2008 through 2012 - *continued*

Fall Enrollment Rate by High School Type:										
	2012 Graduates		2011 Graduates		2010 Graduates		2009 Graduates		2008 Graduates	
Characteristic	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Number of Entrance Criteria Graduates	1117		1080		1138		1086		995	
Entrance criteria fall college enrollment	859	76.9	822	76.1	845	74.3	806	74.2	762	76.6
Number of Career and Technology Graduates	626		721		675		709		707	
Career and tech. fall college enrollment	255	40.7	305	42.3	303	44.9	320	45.1	323	45.7
Number of Traditional (no criteria) Graduates	1742		1873		1953		1957		1805	
Traditional fall college enrollment	563	32.3	659	35.2	767	39.3	772	39.5	712	39.5
Number of Charter Graduates	233		279		158		137		58	
Charter fall college enrollment	101	43.4	131	47.0	89	56.3	79	57.7	35	60.3
Number of Innovation Graduates	143		179		143		122		89	
Innovation fall college enrollment	51	35.7	81	45.3	53	37.1	67	54.9	33	37.1
Number of Transformation Graduates	580		230		130		107		132	
Transformation fall college enrollment	188	32.4	110	47.8	57	43.9	59	55.1	83	62.9
Number of Alt/Special Education Graduates	192		234		222		159		231	
Alt/Special Ed fall college enrollment	36	18.8	44	18.8	39	17.6	28	17.6	45	19.5

*Leaver Rate is used because cohort graduation rates are calculated beginning with the Class of 2010.

Appendix D: Baltimore City Schools Classification by Year

For the Class of 2007:

Entrance Criteria
Polytechnic Institute (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 Vo-Tech (410); Carver Vo-Tech (454)

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)

Charter
Baltimore Freedom Academy (423)

Innovation *No innovation high schools graduated students in 2007.*

Transformation
New Era Academy (422)

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:

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)

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)

Charter
Independence School Local 1 (333); Baltimore Freedom Academy Middle/High (423)

Innovation
Baltimore Talent Development High (428)

Transformation
New Era Academy (422); Academy for College and Career Exploration High (427)

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:

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)

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)

Charter
Independence School Local 1 (333); Baltimore Freedom Academy Middle/High (423); Coppin Academy High (432)

Innovation
Baltimore Talent Development High (428); Renaissance Academy (433)

Transformation
New Era Academy (422); Academy for College and Career Exploration High (427)

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:

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)

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); 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); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Charter
ConeXions Community Leadership Academy (325); Independence School Local 1 (333); Baltimore Freedom Academy Middle/High (423); Coppin Academy High (432)

Innovation
Baltimore Talent Development High (428); Renaissance Academy (433)

Transformation
New Era Academy (422); Academy for College and Career Exploration High (427)

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

For the Class of 2011:

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)

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); 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); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Charter
ConeXions Community Leadership Academy (325); MD Academy of Technology & Health Sci Middle/High (331); Independence School Local 1 (333); Baltimore Freedom Academy Middle/High (423); Coppin Academy High (432)

Innovation
Baltimore Talent Development High (428); Renaissance Academy (433)

Transformation
REACH Partnership School (341); KASA (Knowledge & Success Acad Middle/High (342); Baltimore Liberation Diploma Plus High School (365); Baltimore Antioch Diploma Plus High School (366); Baltimore Community High School (367); New Era Academy (422); Academy for College and Career Exploration High (427)

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

For the Class of 2012:

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)

Traditional
Southside Academy of Environmental Science High (181); Benjamin Franklin High @ Masonville Cove (239); 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); 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); Institute of Business and Entrepreneurship High (435); Frederick Douglass High (450)

Charter
ConeXions Community Leadership Academy (325); MD Academy of Technology & Health Sci Middle/High (331); Independence School Local 1 (333); Baltimore Freedom Academy Middle/High (423); Coppin Academy High (432)

Innovation
Baltimore Talent Development High (428); Renaissance Academy (433)

Transformation
Friendship Academy of Science & Tech Middle/High (338); Friendship Academy of Engin & Tech Middle/High (339); REACH Partnership School (341); KASA (Knowledge & Success Acad Middle/High (342); Baltimore Civitas Middle/High (343); Baltimore Liberation Diploma Plus High School (365); Baltimore Antioch Diploma Plus High School (366); Baltimore Community High School (367); New Era Academy (422); Academy for College and Career Exploration High (427)

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

**National Academy Foundation High School (421) has atypical entrance criteria, in the form of an interview.

Appendix E: Most Frequently Fall-Enrolled Institutions of Higher Education Attended by City Schools Students from the Class of 2012, by Barron's Competitiveness Ratings*

2-Year Postsecondary Institutions

- Allegany College of Maryland
- Anne Arundel County Community College
- Baltimore City Community College
- Community College of Baltimore County
- Garrett College
- Howard County Community College

4-Year Postsecondary Institutions by Barron's Selectivity Index[ǂ]

Very Selective

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

Selective

- McDaniel College
- Salisbury University
- Towson University
- University Of Maryland, Baltimore County

Somewhat Selective

- Bowie State University
- College Of Notre Dame Of Maryland
- Coppin State University
- Frostburg State University
- Morgan State University
- Stevenson University
- University Of Maryland, Eastern Shore
- West Virginia University

Not Selective

- Delaware State University
- ITT Technical Institute
- North Carolina A&T University
- Trinity University
- University of Baltimore

†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

*Enrolling 8 or more graduates from the Class of 2012