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November 16, 2015

Borough President Eric Adams
Brooklyn Borough Hall
209 Joralemon Street
Brooklyn, New York 11201

Dear Borough President Adams:

At your request, IBO has estimated the cost of eliminating tuition at CUNY's community colleges. Our findings are summarized below and the enclosed memo details the data, assumptions and methodology used to derive this estimate.

It is important to note that a proposal to make CUNY community colleges tuition-free would need to be structured in a way that did not jeopardize student's access to state and federal grant programs. Our estimates below assume that a local tuition assistance program could be structured in a way that keeps the state and federal grants flowing to CUNY community college students.

With that caveat, IBO estimates that the annual cost to the city of providing free tuition for CUNY's community college students would range from a low of \$138 million for a program limited to three years of tuition assistance for full-time students to a high of \$232 million for a program of unlimited duration for all students, full and part time. Generally, a program with a time limit greatly decreases costs compared with an open-ended program, given how slowly many community college students progress toward graduation. All of our estimates assume that the tuition free program would apply only to city residents.

These initial estimates assume no change in behavior either in terms of the number of students enrolling in community college or the number maintaining attendance. In reality, reducing the cost should have some impact on those figures, in ways that would likely increase the cost of the program.

For the city, the benefits of eliminating tuition for community college students are dependent on how successful the program is at raising the very low current graduation rate. However, we do not have the means to estimate the impact on graduation rates for this particular program. Data from the U. S. Census Bureau's American Community Survey for the years 2011-2013 show that for residents of New York City age 25 and above, the median income of individuals holding an associate's degree (or with some college attendance) is \$8,770 greater than that of individuals with a high school diploma. However, research indicates that the income boost varies greatly and is closely tied to the field of the associate's degree, with the career and technical education and health fields yielding the highest returns.

CUNY's ASAP program, which offers free tuition for community college as one of many supports for participants, has shown significant impact on graduation rates for community college students, but it is restricted to a particular group of students and its results cannot be generalized to the whole population. This is particularly true because studies of ASAP have emphasized the importance of the full range of interventions that make up that program. While those services add cost to the program, we cannot know whether the tuition subsidy alone would yield a similar impact on graduation rates.

If you have any questions or would like additional information, please feel free to contact me at ronniel@ibo.nyc.ny.us or 212-442-0225 or Raymond Domanico who coordinated the study, at raymond@ibo.nyc.ny.us or 212-341-6049.

Sincerely,

A handwritten signature in black ink, appearing to read "Ronnie Lowenstein". The signature is fluid and cursive, with a long horizontal stroke at the end.

Ronnie Lowenstein



THE CITY OF NEW YORK
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MEMORANDUM

Date: November 12, 2015

To: George Sweeting

From: Ray Domanico
Joydeep Roy
Yolanda Smith

SUBJECT: **ANALYSIS OF THE POTENTIAL COST OF PROVIDING TUITION-FREE COMMUNITY COLLEGE AT CUNY FOR NEW YORK CITY RESIDENTS**

At the request of Brooklyn Borough President Eric Adams, IBO has considered the potential costs and fiscal benefits of making attendance at CUNY's community colleges tuition-free for city residents. We have examined potential program costs under a series of scenarios posed by the Borough President's office. We have also reviewed research literature on the potential benefits of such a program. The final section of this memo summarizes those findings. We refrain from making a bottom-line estimate of the benefits to this particular program, because this would depend on the eventual success of the program at increasing graduation rates, and we have no information on which we can base a projection of that impact. We also describe the ways in which CUNY's Accelerated Study in Associate Programs (ASAP), which is often cited as a model for a tuition-free policy, differs from an initiative that only consists of a tuition subsidy.

Description of CUNY's Community Colleges and Their Students

The city university operates seven community colleges: Kingsborough CC in Brooklyn, Borough of Manhattan CC and Stella and Charles Guttman CC in Manhattan, Bronx CC and Hostos CC in the Bronx, and Queensborough CC and LaGuardia CC in Queens. In the fall of 2013, these schools enrolled almost 58,000 full-time students and close to 40,000 part-time students. The count of *full-time equivalents* (after pro-rating part-timers) was 71,320.

Sixty-three percent of CUNY's community college students are age 22 or younger. An additional 23 percent are between ages 23 and 29. Almost 14 percent are age 30 or older.

The annual tuition rate is currently \$4,800 and CUNY estimates the total cost of attendance, including books, supplies, travel and living expenses, to be \$12,000 for students living at home and \$24,800 for students living independently. The tuition rate has increased by 55 percent since 2010, reflecting ongoing implementation of the CUNY Compact, which called for smaller, but steady tuition increases

than had been true in the past. The compact was first implemented in 2007 and is scheduled to continue to guide tuition policy through 2016.

The annual budget of CUNY's community colleges totals \$973 million (fiscal year 2015). The city contributes 31.5 percent (\$306 million) and the state provides 27 percent (\$262 million). Tuition accounts for 36 percent of the budget, or \$351 million. A significant portion of tuition payments come from federal Pell Grants or state aid paid to qualifying students. However, 40 percent of CUNY's community college students receive no state or federal grants in aid, perhaps due to their immigration or documentation status. Those students bear the full cost of attendance themselves. For the 60 percent of students who do receive state or federal grants, the average award is \$5,596, more than the tuition amount but only about 25 percent to 50 percent of the total cost of attendance.¹ The rate of students receiving financial aid varies by school. Almost three-quarters of students at Bronx CC and the new Guttman CC receive aid, while only slightly more than half of Kingsborough's and LaGuardia's students do so.

It is important to note that a proposal to make CUNY community college tuition-free would need to be structured in a way that did not jeopardize students' access to state and federal grant programs. Losing access to those programs would result in the loss of more than \$325 million of state and federal money that now flows to students. Our estimates below assume that a local tuition assistance program could be structured in a way that keeps the state and federal grants flowing to CUNY community college students.

Student retention and progress toward graduation is a challenge at the community colleges. In recent cohorts, slightly less than a third of students do not enroll in the fall after their first year. Two years after initial enrollment, just 4 percent of students have earned their associates degree while 46 percent to 48 percent had returned for their second year. About 16 percent of the original cohort has earned a degree after three years. The graduation rate grows to around 26 percent after four full years and eventually tops out at about a third of the entering cohort earning either associates or bachelor's degrees. About 12 percent of the entering cohort is still enrolled in the fifth year after admission.

Estimating the Cost of the Tuition Subsidy

All of the issues noted above: the number of students attending CUNY's community colleges, their progress toward graduation and the current amount of tuition and financial aid, factor into our estimate of the cost of making the schools tuition-free.

Borough President Adams has asked us to develop various cost projections related to student qualifications for the tuition-free program. Using data provided by CUNY on enrollment and student retention, we are able to model the impact of limiting the program to full-time students and the impact of also allowing part-time students to participate. Similarly, we are able to estimate the various cost implications of limiting the number of years (three, four, or five years, or unlimited) that a student would be eligible. However, we were unable to identify any data that would allow us to consider the cost implications of a minimum GPA eligibility requirement.

Our basic methodology is to identify the number of students who would be eligible for the program in a single year and divide them into two groups: those who—based on past experience— would be likely to qualify for some form of state or federal aid (60 percent of the students) and those who would likely not qualify (40 percent). The calculation of the per-student cost of the tuition subsidy is straightforward:

Forty percent of students receive no tuition aid from state or federal sources. Therefore, it would cost \$4,800 per student to cover their entire tuition cost.

Sixty percent of students do receive tuition assistance from state and federal sources, estimated to be \$2,240 on average. Thus, the average cost to cover the portion of their tuition not already covered by state and federal grants is $\$4,800 - \$2,240 = \$2,560$ per student.

In order to calculate the average per-pupil cost to the city of providing free tuition for all students, we simply weight the two costs estimates by the share of students who do and do not receive state and federal aid:

$$(\$4,800 \times 40\%) + (\$2,560 \times 60\%) = \$3,456.$$

Finally, we assume that the roughly 8 percent of CUNY community college students who are not city residents would not be eligible for free tuition.

Eligibility Limitations	Number of Eligible Students	Annual Program Cost (millions of dollars)
No Time Limits:		
Only Full-Time Students	54,618	\$189
All Students (FTEs)	67,085	\$232
Limit Participation to 10 Years:		
Only Full-Time Students	53,771	\$186
All Students (FTEs)	66,045	\$228
Limit Participation to 5 Years:		
Only Full-Time Students	47,998	\$166
All Students (FTEs)	58,953	\$204
Limit Participation to 4 Years:		
Only Full-Time Students	44,996	\$156
All Students (FTEs)	55,267	\$191
Limit Participation to 3 Years:		
Only Full-Time Students	40,054	\$138
All Students (FTEs)	49,197	\$170

NOTE: Only New York City residents are included. In the scenarios that are time-limited, we estimate the number of students by considering recent cohorts (both first time entrants and transfers) and their retention rates over the years. This data is regularly produced by CUNY's Office of Institutional Research and available on their website. <http://www.cuny.edu/about/administration/offices/ira/ir/data-book/current/retention-graduation/system.html>

IBO estimates that the annual cost to the city of providing free tuition for CUNY's community college students would range from a low of \$138 million for a program limited to three years for full-time students to a high of \$232 million for a program of unlimited duration for all students, full and part time. Inclusion of part-time students adds 23 percent to the cost of a program for full-time students, regardless of time limits. Generally, a time limit greatly decreases costs compared with an open-ended program, given how slowly many community college students progress toward graduation.

These initial estimates assume no change in behavior either in terms of the number of students enrolling in community college or the number maintaining attendance. In reality, reducing the cost should have some impact on those figures, in ways that would likely increase the cost of the program.

A large reduction in tuition as would be the case if CUNY makes its community colleges tuition-free is likely to attract students who are either not currently enrolled in college or enrolled in non-CUNY colleges. Research finds that potential college students are generally very sensitive to the price of attending college, including tuition and financial aid. Potential community college students might be even more sensitive; coming from a relatively low-income population, they are likely to be even more

wary of costs. A study of Texas community colleges² found that a \$1,000 increase in tuition resulted in an immediate decrease in enrollment of 5.4 percentage points. Moreover, if tuition at CUNY's community colleges is lowered while tuition at the senior colleges is not, some students might be diverted from the more costly four-year colleges; a study in Massachusetts finds students "remarkably willing to forego college quality for relatively small amounts of money."³

Given that community college students rarely cross state boundaries to attend college, much of the diversion effect is likely to come at the expense of other colleges in New York City and State, particularly senior CUNY colleges. A study in Missouri found that lower tuition costs at community colleges increased two-year college enrollment by 5.3 percentage points, but decreased combined public and private four-year enrollment by 3.8 percentage points.⁴ Data from CUNY show that among full-time first-time freshman enrolling in associate degree programs in fall 2005, 7.4 percent had earned a *bachelor's degree* after eight years, with an even higher share transferring to four-year colleges—similar rates were found in the fall 2006 entering cohort; the two most recent cohorts for whom eight-year graduation data are available.⁵ This suggests that it is not unheard of for some students to begin in a community college and then move on to enroll and graduate from a senior college. A cost differential between the two levels might make that more common.

The costs of free tuition at CUNY community colleges is thus likely to also depend on changes in tuition at other colleges in the city and state. If community colleges in CUNY are the only post-secondary institutions in the city or state offering a no-tuition policy, they might see significant increases in enrollment. Studies of recent state merit aid programs, adopted by many states in the South, show that generous tuition discounts to in-state residents lead to increases in total college enrollment *within the state*, along with sharp increases in *in-state* college enrollment, as students decide to remain within their home state rather than enroll elsewhere.⁶

Considering the Benefits of Free Tuition

The Borough President has asked us to estimate the fiscal benefits that might be associated with the tuition subsidy program, particularly those that would result from additional tax revenue generated from higher earnings of those who would otherwise not be able to afford college, thereby offsetting some of the cost of the tuition subsidy.

The benefits of eliminating tuition for community college students are dependent on tuition reduction leading to a higher graduation rate than is now the case. However, we do not have the means to estimate the impact on graduation rates for this particular program. Research indicates that for individuals, greater educational attainment is associated with higher income. Simply put, high school graduates tend to earn more than nongraduates. Similarly, those who attain an associate's degree tend to earn more than high school graduates, and so on. (Research also suggests other benefits associated with educational attainment, including better health and lower crime rates, but we will focus on income here.) Data from the U.S. Census Bureau's American Community Survey for the years 2011-2013 show

that for residents of New York City age 25 and above, the median income of individuals holding an associate's degree (or with some college attendance) is \$8,770 greater than that of individuals with a high school diploma. Although many studies⁷ have found similar results, it is important to note that the area of study is critically important, with the highest returns to associate's degrees appearing for those in the career and technical education (CTE) and health fields.

Comparison to the Accelerated Study in Associate Programs⁸

The Borough President also asked us to compare the potential impacts of a free tuition policy to the demonstrated impact of the existing CUNY Accelerated Study in Associate Programs. ASAP goes beyond free tuition to include an extensive list of programmatic interventions with students.

The key elements of ASAP are briefly described below. In ASAP, free tuition is paired with program elements designed to move students more quickly to graduation. Only certain students are eligible to participate in ASAP and continuation in the program is dependent upon their compliance with certain program requirements.

- Student eligibility:
 - NYC resident
 - Eligible for need-based financial aid or veteran's benefits
 - Proficient in reading, writing, and math or have no more than two developmental course needs based on the CUNY Assessment Tests
 - Enrollment in an ASAP approved program on a full-time basis—at least 12 credits per semester
 - For continuing or transfer students, 15 or fewer college credits prior to enrollment in ASAP.
- Program components:
 - Waiver of tuition not covered by financial aid
 - Financial assistance towards textbooks; requirements designed to minimize costs (i.e., rent vs buy textbooks)
 - Free monthly unlimited MetroCards for students who comply with program requirements
 - More intensive advising, career services, and tutoring
 - Strong encouragement to enroll in winter (intersession) and summer courses to make up failed courses and developmental courses; additional aid provided to cover these costs
 - Students are enrolled in courses with a concentration of ASAP students
 - Strong encouragement and support to complete the associate's degree within three years.

As part of a comprehensive study of CUNY's Accelerated Study in Associate Programs, Levin and Garcia estimated the total fiscal benefit to taxpayers for each additional associate's degree graduate.⁹ In doing so, they considered the future income tax payments associated with the higher earnings of holders of

associate's degrees; their future property and sales taxes; and the reduced claims that they would make on the public health, public assistance, and criminal justice systems.

Both the Levin and Garcia study and a later report by MDRC found significantly higher graduation rates among students participating in ASAP than among a carefully drawn comparison or control group. The MDRC study was particularly powerful, because it drew on a random assignment of a group of students who qualified for ASAP—some assigned to the program and others enrolled in CUNY community college, but not in ASAP.¹⁰ MDRC reported that the three-year graduation rate for ASAP participants was almost double that of students in the control group (40 percent compared with 22 percent). However, ASAP has many more program components besides the proposed tuition subsidy and is also targeted to a specific group of students, as opposed to the more general approach of a universal tuition subsidy.

ASAP has been shown to have dramatic positive outcomes for the targeted group of students it serves. MDRC concluded the 18 percentage point increase in the graduation rate more than offset the program's higher costs, noting that "*the cost per degree was lower in ASAP than in the control condition.*" Although likely to be lower than the improvement achieved under ASAP, an increase in graduation rates resulting from a more modest program that only offered free tuition could also produce fiscal benefits offsetting the costs of the program, but the available information is not sufficient for IBO to test such a hypothesis.

However, the rigorous MDRC evaluation of ASAP emphasizes the importance of the full range of services offered, particularly the requirement that students attend full time, the frequent interaction they have with advisors, the availability of free MetroCards (contingent on their fulfilling their program requirements) and the intense monitoring of their progress that was done by CUNY. Finally, it cautions that additional study is needed to see if the gains enjoyed by ASAP students can be sustained if and when the program expands its scope.

Conclusion

IBO estimates that eliminating tuition for CUNY community colleges would cost the city \$3,456 per student per year. Total annual cost would range from \$138 million to \$232 million depending on the number of years that students would be eligible as well as whether the subsidy was limited to full-time students or made available to part-timers as well.

While there are clearly documented benefits to the attainment of an associate's degree, the size of these benefits is related to the course of study. CUNY's ASAP program has shown significant impact on graduation rates for community college students, but it is restricted to a particular group of students and its results cannot be generalized to the whole population. This is particularly true because studies of ASAP have emphasized the importance of the full range of interventions that make up that program. While those services add cost to the program, we cannot know whether the tuition subsidy alone would yield similar impact on graduation rates.

Enrollment in CUNY's Seven Community Colleges*Data from Fall, 2013*

First Time Freshmen	17,742
Total Enrollment	
Full-Time Students	57,937
Part-Time Students	39,814
Total Enrollment	97,751
<i>Full-Time Equivalents</i>	<i>71,320</i>
Age Distribution of Community College Students	
Under 20	35.6%
20-22	27.8%
23-24	10.5%
25-29	12.5%
30-44	10.6%
45 and Over	3.1%
Associate Degrees Granted - June '13	11,678
SOURCE: CUNY Office of Institutional Research Reports	

	Enrollment Fall 2013 (Full and Part Time)	Percent Receiving Any Grant or Scholarship Aid	Average Amount of Aid
Kingsborough	18,634	52%	\$5,215
BMCC	24,186	73%	5,267
LaGuardia	19,564	51%	4,545
Queensborough	16,291	48%	5,569
Bronx	11,368	74%	7,974
Hostos	7,006	70%	5,067
Stella and Charles Guttman	493	74%	7,624
Total	97,542	60%	\$5,596

ENDNOTES

¹ Financial aid data was taken from the National Center for Educational Statistics Integrated Post-Secondary Education Data System.

² Martorell, P., McCall, B., and McFarlin, I. (2014). Do public tuition subsidies promote college enrollment? evidence from community college taxing districts in Texas. <http://www2.census.gov/ces/wp/2014/CES-WP-14-32.pdf>

³ Cohodes, Sarah and Joshua Goodman (2014). Merit Aid, College Quality and College Completion: Massachusetts' Adams Scholarship as an In-Kind Subsidy, *American Economic Journal: Applied Economics* 6, no. 4: 251-285.

⁴ Muñoz, José, James Harrington, Bradley R. Curs and Mark Ehlert (2014). Democratization and Diversion: The Effect of Missouri's A+ Schools Program on Postsecondary Enrollment. University of Missouri, October 22, 2014.

⁵ http://www.cuny.edu/irdatabook/rpts2_AY_current/RTGI_0001_FT_FTFR_ASSOC_TOT_UNIV.rpt.pdf.

⁶ David L. Sjoquist, John V. Winters (2015). State Merit Aid Programs and College Major: A Focus on STEM. *Journal of Labor Economics*, Vol. 33, No. 4 (October 2015), pp. 973-1006

⁷ Dadgar, Mina and Madeline Joy Trimble (forthcoming). Labor Market Returns to Sub-Baccalaureate Credentials: How Much Does a Community College Degree or Certificate Pay? *Educational Evaluation And Policy Analysis*, Published online before print, November 5, 2014.

Jepsen, Christopher, Kenneth Troske, and Paul Coomes (2014). The Labor-Market Returns to Community College Degrees, Diplomas, and Certificates. *Journal of Labor Economics*, Vol. 32, No. 1 (January 2014), pp. 95-121.

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Stevens, Ann Huff, Michal Kurlaender, and Michel Grosz (2015). Career Technical Education and Labor Market Outcomes: Evidence from California Community Colleges. NBER Working Paper No. 21137, April 2015. <http://www.nber.org/papers/w21137>

⁸ *Inside ASAP: A Resource Guide on Program Structure, Components, and Management*. CUNY, Office of Academic Affairs, 2015. <http://www1.cuny.edu/sites/asap/wp-content/uploads/sites/8/2015/05/Resource-Guide.pdf>

⁹ Levin, Henry M. and Garcia, Emma. Benefit-Cost Analysis of Accelerated Study in Associate Programs (ASA) of the City University of New York (CUNY). Center for Benefit-Cost Studies in Education, Teachers College, Columbia University. May 2013.

¹⁰ *Doubling Graduation Rates: Three Year Effects of CUNY's ASAP for Developmental Education Students*, MDRC, February 2015 (www.mdrc.org)

