



**Department of
Education**

Carmen Fariña, Chancellor

**Testimony of the NYC Department of Education
on Career and Technical Education in NYC Schools and Intro. Nos. 1099 and 1193**

Before the NYC Council Committee on Education

September 21, 2016

Phil Weinberg, Deputy Chancellor, Division of Teaching and Learning

Good afternoon Chair Dromm and Members of the New York City Council Education Committee. My name is Phil Weinberg, the New York City Department of Education's (DOE) Deputy Chancellor for Teaching and Learning. I am pleased to be here today to discuss Career and Technical Education, or CTE, and Intro. No. 1099 in relation to reporting on CTE and Intro. No. 1193, which would require DOE to report on computer science instruction.

CTE is a top priority for Mayor de Blasio and Chancellor Fariña and a key part of our vision of equity and excellence for all students, by ensuring they graduate from high school college and career ready. We know Speaker Mark-Viverito and the City Council share our commitment to ensuring that students have access to high-quality CTE programs, and we would like to thank you for your continued leadership and generous support.

CTE of the 21st century is not your old "vocational" education; it is a college and career readiness strategy that prepares students for a future that often requires training and formal education beyond high school. Today's CTE programs prepare students with the skills and rigorous academics to both graduate with a valuable skill and be college-ready. They will use their CTE experiences in high school to make college and career plans of their own choosing.

This evolution began under the last administration, and we are proud to continue taking this work to the next level by investing a total of \$113 million over the next four school years, beginning with more than \$17.5 million in FY17 and growing to \$26 million in FY20, to support 40 new high-quality programs and existing CTE programs. The new programs will be aligned to labor market needs and open over the next three school years. All 40 programs will have at least one strong industry partner, and will include at least three 9-14 programs where students can earn an Associate's Degree for free. Some of these programs will be highlighted with our other CTE high schools at the CTE High School Fair on October 29th at Westinghouse High School in Brooklyn.

Additionally, for the first time this year, CTE Programs in traditional academic high schools are receiving additional funding per student for their CTE program; in previous years, only CTE high schools received per-student funding to support CTE. Funding will also be allocated to support work-based learning, including new apprenticeships and internships.



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I am joined by John Widlund, a CTE graduate and a committed educator with 30 years of experience. He currently heads our CTE work within the Office of Postsecondary Readiness (OPSR).

I am also proud to be here today with Moses Ojeda, the principal and a graduate of Thomas A. Edison High School. Mr. Ojeda is responsible for turning Edison into one of our flagship CTE schools. Both were part of our Success Via Apprenticeship CTE teacher-training program and have distinguished themselves in their fields. They will share additional information on our work to strengthen CTE.

John Widlund, Executive Director, CTE Programs, Office of Postsecondary Readiness

Good Afternoon Chair Dromm and Members of the Education Committee. I'm John Widlund, the Executive Director of CTE at DOE.

Since this is my first time before this Committee I would like share some information about my background.

I'm a proud graduate of Ralph McKee CTE High School on Staten Island. At 19 years old, I started teaching Electrical Installation at McKee through the Success via Apprenticeship program – and I've been a CTE educator ever since. I've been proud to teach at Chelsea Vocational High School in Manhattan, become an assistant principal at McKee, serve as principal of Westinghouse High School in Brooklyn, and most recently as the principal of Coop Tech, a unique CTE-program that serves overage students across all five boroughs.

As Deputy Chancellor Weinberg said, CTE has been undergoing a decades-long transformation that has moved far beyond a tracked vocational sequence that limited students, leaving them with minimal prospects for meaningful employment beyond an entry level and often unskilled job.

During this transformation, we have recognized the value and strength of hands-on career learning in tandem with college preparatory academic courses. I cannot stress this enough -- in our CTE programs, all students receive a rigorous academic core in addition to the CTE sequence. There are currently 276 CTE programs and schools serving over 63,000 students in full sequences across the five boroughs. This includes programs at our 47 CTE high schools. Students who graduate from CTE programs and schools typically have over 50 high school credits, well above the required 44 credits, and receive training in industries ranging from electrical installation to cutting edge information technology.

For the DOE, high-quality CTE encompasses four critical components – industry engagement, work-based learning for students, program quality, and integration of academic and CTE content.

The first, industry engagement, is done through eight commissions that bring high-value industry partners to the table as we support our schools, develop curriculum, and select technical



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assessments. We also engage these partners and look at NYC labor market trends as we develop new programs.

Through the second, work-based learning, teachers are able to provide students with hands-on classroom experiences, as well as job shadowing and coaching. For many students, the skills they learn in the classroom turn into paid internships. This year alone, my office supported over 2,000 such internships.

The third is program quality. This requires a rigorous and integrated curriculum, industry supported as well as state approved assessments, work-based learning opportunities, and cooperation with a high value industry and post-secondary partner at the school level. Our office works to support schools in offering high-quality CTE, and, specifically, as they bring these pieces together and seek State program approval.

Fourth is academic integration. We work tirelessly to support schools and teachers with professional development, site visits, and curricular units as they develop more rigorous academic and CTE instruction.

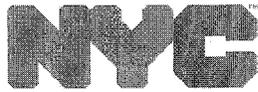
Looking ahead we're thrilled to lead a multi-year initiative, made possible by our Mayor and Chancellor, to continue improving CTE by strengthening and expanding high-quality offerings. As Deputy Chancellor Weinberg mentioned, we will offer direct funding and training for the development of 40 new CTE programs, support schools to expand work-based learning opportunities, develop stronger industry and post-secondary partnerships, and continue to integrate and strengthen academic and CTE content.

The per-student funding for over 70 traditional academic high schools with CTE programming will provide much needed support for these schools, which have previously self-funded programs. We anticipate this will help increase program capacity and fund upgrades to their current offerings.

The City Council has been instrumental in our efforts to expand CTE as you have supported schools within your districts, and we are happy to partner with you on these important plans for program expansion. We're also thrilled to be working on an expansion of work-based learning opportunities for students with the City Council – your efforts are greatly appreciated and all of us are excited to deepen this collaboration.

Nonetheless, CTE does have a set of challenges we are working to address. Through collaboration with our partners at the United Federation of Teachers and the New York State Education Department, we have begun to see shifts in policy regarding teacher certification. We continue to work towards a more permanent solution to ensure we can provide instruction in new and innovative CTE fields.

Another challenge requiring a policy shift is the lengthy NYSED program approval process. The approval process is rightly intended to ensure high quality CTE programming by requiring



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schools to document and provide evidence of key benchmarks. However, while my office has made changes recently to better support schools through the process, some still do not pursue the approved program route.

Lastly, we hope to work with the State to create more formally recognized apprenticeship programs, beginning in the public sector.

We thank the Chair and the Education Committee for your work to support our efforts, and I thank the Committee for this opportunity. I would be remiss if I did not ask for your advocacy on our behalf with your colleagues in Albany. These challenges can be overcome with your support for the policy shifts I have outlined

Finally, I would like to briefly address the proposed legislation- Intro. No. 1099, which requires DOE to report on CTE programs in NYC schools, and Intro. No. 1193, in relation to reporting on computer science instruction. Both pieces of legislation will be an important resource for the DOE, as well as school communities, elected officials, and other stakeholders, and will continue to increase our transparency, something which the Mayor and Chancellor, as well as the Council, strongly support. We support the goals of both Intro. No. 1099 and Intro. No. 1193, and look forward to working with the City Council to ensure that the reporting requirements in these bills align with our instructional framework and what we track in our data systems.

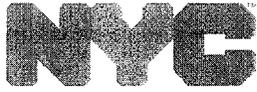
Moses Ojeda, Principal, Thomas Edison Career and Technical Education High School

Good afternoon Chair Dromm and Members of the Education Committee. My name is Moses Ojeda, and I am the proud principal of Thomas Edison Career and Technical Education High School located in Jamaica, Queens. I am thrilled to be here today, especially because our Mayor and Chancellor's vision for equity and excellence for all includes strengthening and expanding CTE. I'm also grateful for the support of the City Council.

As an educator for over 20 years, I believe CTE is critical for the success of our City. Personally, CTE laid the foundation for my own success. I graduated from Edison back in 1993. Mr. Bell, one of my teachers, pushed me to persevere through tough moments as a teenager and inspired me to become an educator. But the reality when I graduated high school was that CTE was strictly "vocational." The narrow focus on solely technical skills led me to graduate behind in reading and writing; my degree in business equipment repair was antiquated because, much to my surprise, no one was using typewriters.

When I came back to teach at Edison, I was determined to make sure all students could pursue their dreams. First, we got rid of our typewriters. Then, we created a partnership with Xerox and updated our technology. We began to re-imagine how we could strengthen both technical instruction and academic instruction.

At Edison, we work tirelessly to ensure our young people graduate as problem solvers, and critical thinkers. Students can choose from 12 different tracks, from more traditional work like



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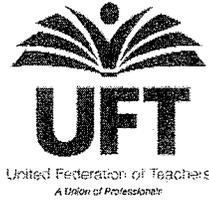
auto technology and medical careers, to new and innovative CTE programs such as robotics, biotechnology, visual and art design, and cutting edge information technology. All throughout, our students are exposed to rigorous academic work – including AP courses, College Now, and honors courses. I’m particularly proud of our wide range of clubs and sports, as well as our popular Model UN program, which reinforces rigorous academics and helps our students become the global leaders of tomorrow.

For instance, last year, our students were able to see *Hamilton*. This opportunity wasn’t just about CTE – it’s about a well-rounded education. Our English and Social Studies teachers taught lessons around *Hamilton* that brought together history, critical reading and writing, and the arts. Additionally, through the City’s new SING musical program, our students are now creating their own spin-off titled “Edison vs. Tesla.” Technical skills and the arts are weaved together; our visual arts students are making all of the props and the flyers, and our electrical installation students are creating the lighting. As we’ve sought to strengthen both academics and CTE instruction, our graduation rate has increased – and our college readiness and postsecondary enrollment have increased too.

Edison receives a wide range of supports from OPSR: ensuring our students have access to meaningful work-based learning opportunities and our teachers receive excellent opportunities for professional development. They support us in developing strong industry and higher education partnerships such as the automobile and transport commission. This particular partnership led us to develop externships, or intensive trainings, at auto dealerships for our educators. The externships help our educators learn through direct experience about trends, skill requirements and opportunities in the industry. This allows our students to successfully compete in auto tech competitions and they are consistently recognized as one of the top teams nationally, recently gaining international recognition. Commissions also serve as a network hub for school-to-school collaboration. Teachers at Edison have successfully trained fellow CTE educators in topics that range from advanced networking to cyber forensics.

I’m proud to work hand in hand with the New York City Department of Education to ensure equity and excellence for all students through Career and Technical Education. I am proud of Edison’s work shaping the next generation of New Yorkers.

Thank you and we welcome your questions.



Testimony of the
United Federation of Teachers

By Sterling Roberson, Vice President for Career and Technical Education

Before the City Council Committee on Education
Regarding Expanding Career and Technical Education and Int. No. 1099 and No. 1193

September 21, 2016

Good afternoon. My name is Sterling Roberson, and I am the United Federation of Teachers vice president for career and technical education. On behalf of the union's 200,000 members who serve our children matriculating through CTE programs, we would like to thank the Committee on Education and Chairman Danny Dromm for holding this hearing. Our members and students benefit from your diligence and critical oversight over the career and academic resources they need to best position our students for successful lives.

We support the Intro. 1099 request for annual reporting on the city's CTE programs. We likewise support the introduction of No. 1193 request for annual reporting on computer science programs. We applaud Council Members Mark Treyger, Mark Levine, and the other signing members of the Education Committee for taking the lead and championing our CTE students and educators.

Our union's advocacy on behalf of expanding career and technical education programs is well known. We certainly welcome the growing spotlight on CTE, because we know it works. The New York City Chancellor's appointment of an Executive Director of Career and Technical Education and the New York State Board of Regents' expansion of pathways for CTE assessment and graduation requirements reinforce the importance and priority of these programs for our students and our members. These are steps in the right direction.

I can speak firsthand about the impact of career and technical education, from my experience as both a veteran career and technical education teacher and someone who spends a considerable part of my work life advocating for quality CTE programs and policies that strengthen our efforts toward graduating young men and women with certified credentials. When done well, our members receiving state-of-the-art training in a full range of technical fields can deliver industry accredited instruction, enabling our students to advance in careers and higher learning. When under-resourced, we weaken our ability to retain educators with leading edge skills, potentially undercutting strategic

relationships with industry partners, while risking sending students into the workforce lacking the skills to effectively compete. Our emphasis in today's testimony will focus on the elements that must be in place for quality career and technical education.

Delivering high-quality CTE

We can all agree that with 16 career clusters encompassing almost 80 distinct career pathways, today's CTE far surpasses what was traditionally viewed in the narrow context of vocational education. By delivering high quality career and technical education, we can have a positive effect on our students' long-term earning potential and the strength of our economy into the future. Overall, high quality CTE requires investment and continuing commitment.

In order for high-quality CTE to become a reality for students however, it requires the following elements:

- 1) authentic career pathways that expand to degree programs, with
- 2) recognized and certified industry credentials;
- 3) partners in leading industries and higher education, and
- 4) technically trained teachers with leading edge skills.

High quality CTE additionally demands that the academics aren't relegated to second tier.

I know that's a lot to digest. Let's begin with what this means for our members.

Keeping pace with emerging and rapidly improving technology challenges professionals in all fields. In our profession, we must engage on all fronts: teacher preparation, continuing teacher leader education, recruitment, and retention efforts. For current educators charged with delivering instruction leading to certified CTE credentials, resources and supports become critical. We negotiated professional learning in our contract and, in the case of our CTE teachers, that translates into externships within their industry group. Working within professional teams at companies like Apple, Cisco, and Intel and in industries like automotive, aviation, and green environmental businesses equips our members to deliver what students should both know and know how to do, in order to excel in these jobs.

We also need to recruit and cultivate our teaching force. For example, we have a CTE teacher recruitment, training, and retention program called "Success Via Apprenticeship," where CTE high school graduates participate in a five year apprenticeship program working with mentors. SVA students work in the industry for three years and teach for two years. These teaching apprentices pledge a minimum five year commitment to the DOE and, in return, the department pays their annual salary. Attracting industry professionals with a mastery over newer technologies provides another professional stream that will add to our ranks.

For our students, high-quality CTE similarly requires a distinct set of resources. Students require a defined course sequence, assessments aligned to program standards, and curriculum—all leading to industry recognized credentials. Additionally, our students need more meaningful work-based opportunities. Expanding the four walls of the classroom—so more students get authentic work

experience that is aligned with their curriculum—significantly contributes to the quality of the CTE program. Providing our students with the rigor and relevance within both their academic and technical studies lays the groundwork for successful outcomes—but, that takes time.

We also need an earlier start. If we're serious about the real impact we can make with CTE expansion, our programs should begin in middle school. As educators, we know it takes more time to get our students what they need. Producing a workforce of tomorrow that will drive our local and national economy deserves an earlier investment at the middle school level. The majority of our conversations and policies target high school CTE programs. In the Association for Career and Technical Education's fact sheet highlighting current research, relevant high quality CTE programs are increasing graduation rates and elevating the earning power for our students long-term. Strengthening our efforts in middle school places students on this success trajectory at an earlier age.¹

Partnerships with industries upgrade the quality of our CTE programs and benefit students, our members, and those partners. Our students gain higher learning and credentials to carry them through life. Our members are able to garner real-time updates on cutting edge professional learning. Our partners win by helping design the curriculum, resulting in greater hiring opportunities of a highly skilled workforce that will meet specific industry needs.

At the end of the day, we want the young men and women matriculating through our CTE programs to acquire industry recognized certification, plus ensure that these credentials will carry them wherever they go—either geographically or across industry sectors. In the CTE vernacular, our students become valuable—sought after workers with exportable credentials.

Challenges and roadblocks to quality CTE

We are optimistic that more and more policy makers and administrators want to help make these CTE programs successful. However, we need to reduce the bureaucracy and streamline the process at every level. The state process can severely delay approval of CTE programs, since it can sometimes take as long as three to five years for a program to gain approval.

There's also an opportunity for improvement within the city's administration. We recommend the DOE streamline data systems that work for schools, teachers, parents, and students. For example, schools use various systems, including binders, e-portfolios, Google forms, and Excel™ spreadsheets, to record "employability profile data" for students. We need a system that allows data to be properly recorded and follows students as they progress through their studies.

CTE has to be more than an elective course of study and should be aligned with the school's Comprehensive Education Plan. Schools should incorporate their CTE goals and make sure those goals reinforce academic requirements and match funding.

CTE is on the move, but we must do more

Fundamentally, the 21st century CTE is not the trade school of yesteryear. It requires a different level of engagement from school districts, educators, and public and private partners. Our students require higher proficiency in a wide variety of skills and competencies essential for success in college and career. For example, we no longer simply train auto mechanics with manual skills. Employers now

seek qualified individuals that are able to understand advanced technologies such as navigation, computer circuitry, high-end diagnostic tools, and the like.

With the expansion of CTE programs, it makes sense to develop “how-to guides” for schools interested in starting a CTE course of study. Reducing the learning curve benefits our students, members, and the administration. We recommend the following CTE guidance documents as the Council moves Int. 1099 forward:

- CEP Alignment: An outline of the steps for matching the CTE goals with the school’s comprehensive plan;
- Work-based Learning: – A guide supporting the New York State Education Department WBL;
- Articulation Agreements – Structuring agreements between post-secondary institutions and industry to manage articulated high school courses—courses that the faculty in the discipline have determined to be comparable to a specific community college course²;
- Student Organizations: Groups where students compete in demonstrations of their skills, “develop their professional and leadership skills, network with one another and professionals across the state and nation.”

To reiterate our earlier recommendation, we believe expanding CTE at the middle school level will pay significant dividends.

Our union will continue its efforts working together with the Albert Shanker Institute and CTE thought leaders to influence lawmakers nationally. Our state legislative lobbying operation will keep the pressure on the state Legislature for increased funding for college and career ready programs. And we’ll partner with the state Board of Regents to continue to strengthen and increase the flexibility for CTE graduation accreditation.

Again Chairman Dromm, we thank you and the Education Committee and we want you to know that the UFT is counting on your continued advocacy for the programs all of our CTE students need and deserve.

End notes:

¹ CTE Today!, Association for Career and Technical Education, [https://www.acteonline.org/uploadedFiles/What is CTE/Fact Sheets/CTE Today Fact Sheet 2016.pdf](https://www.acteonline.org/uploadedFiles/What%20is%20CTE/Fact%20Sheets/CTE%20Today%20Fact%20Sheet%202016.pdf)

² California Statewide Career Pathways, <http://www.statewidepathways.org/showtemplates.php>

TESTIMONY

**NYC COUNCIL COMMITTEE ON EDUCATION
CHAIRMAN, DANIEL DROMM**

Oversight – Career and Technical Education (CTE) Programs

**Presented on
Wednesday, September 21st, 2016**



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NYC Council Education Hearing

Oversight – Career and Technical Education (CTE) Programs

I would like to thank the City Council for the opportunity to submit this written testimony on behalf of the nearly 16,000 Council of School Supervisors and Administrators (CSA) members. We thank you for the opportunity to present our opinions on Career and Technical Education (CTE) Programs.

Last March, Chancellor Carmen Farina announced a new initiative to bring high-quality computer science education to over 150 city elementary, middle, and high schools during the 2016-17 school year as part of a larger initiative by Mayor Bill de Blasio to make computer science courses available to every public school student by the year 2025.

While we applaud the Computer Science for All (CS4All) initiative, CSA believes there should be oversight of the process and execution of Career and Technical Education (CTE) programs. To that end, we also support Int. No. 1099, sponsored by Councilman Mark Treyger, and Int. No. 1193, sponsored by Councilman Mark Levine, which address the issue of creating transparency within the DOE around these proposals.

Int. No. 1099 requires the DOE to supply the City Council with a range of data regarding the implementation of Career and Technical Education programs in New York City Schools, including the overall number and percentage of students enrolled in CTE schools and programs, the number of certified instructors authorized to teach a specific CTE subject, the four year graduation rate for students in CTE programs, and the number and percentage of students who listed a CTE program as their first high school choice.

Transparency around these DOE reports, along with other data analysis, is imperative if we are to know if the administration's vision for Computer Science for All (CS4All) is being fulfilled. These exacting reporting requirements are one reason we support Int. 1099.

CSA supports Int. 1193 because it also requires the DOE to provide data about computer science education initiatives in our New York City schools. These annual reports would detail the number of computer science programs available to students in each school, and the number and percentage of students enroll in said classes.

Int. 1193 would instruct the DOE to share more data about STEM teachers, including the number of teachers trained and, more importantly, the external organizations involved in and the cost of this training. Int. 1193 would also require the DOE to disclose the percentage of students who have an individualized program based on their race, ethnicity, gender, special education and English language learner status.

This data is particularly important if we are to ensure that every student interested in this field has an equal opportunity for computer science education.

These are views we share with Mayor de Blasio and Chancellor Farina, who has said, and I quote, "Learning with technology engages and excites our young people while teaching them literacy, design, problem-solving, and collaboration skills. I am delighted that more students – especially girls and black and Latino Students, who have long been underrepresented in these fields – will have this opportunity."

Although we have a long way to go in providing all students the CTE knowledge and skills needed to achieve their maximum potential, we believe the Chancellor and city administration's vision will

eventually create more STEM opportunities for all interested students, enabling them to learn 21st century skills that will enhance their lives and contribute to the continued economic growth of our city.

We could not agree more with Gabrielle Fialkoff, Senior Advisor to the Mayor's office of Strategic Partnership, who said "We're proud to be taking the next step toward bringing Computer Science for All to all our schools and building the tech workforce of tomorrow."

We agree, that is, as long as the DOE data is properly tracked and reported to the City Council.

I thank the Chairman and the Council for recognizing the importance of Career and Technical Education Programs, and acknowledging the oversight needed to make sure Computer Science for All is successfully implemented under the Mayor's timetable.

Experience has taught us that collaboration is in the best interest of all stakeholders if we are to create the best educational opportunities for New York City students.

Sincerely,

Ernest A. Logan

President



Testimony to the Committee on Education of the New York City Council

Career and Technical Education (CTE) Programs

Michael Simas
Executive Vice President
September 21, 2016

Thank you Chairman Dromm and members of the committee for the opportunity to testify on citywide career and technical education (CTE) programs.

The Partnership for New York City represents the city's business leaders and largest private sector employers. We consider Career & Technical Education to be a critical component of public education and workforce development in New York. We are working with city and state agencies and nonprofit intermediaries to expand employer engagement with and support for CTE programs.

New York City suffers from a shortage of skilled workers for a number of fields, particularly in the high tech and health care sectors. In July, NYC employers listed 116,000 jobs in the five boroughs that are available but unfilled, largely because of a shortage of qualified applicants.

Last year, working with the Department of Education, the Partnership and PwC conducted a comprehensive survey of CTE schools and the employers that participate in CTE programs. We found that employers and educators are largely aligned when it comes to the value of academically rigorous CTE experience for high school and college students and also on the failures of our current approach to CTE, which all agreed is fragmented, under-resourced and overly bureaucratic. We also found that employers and educators consider business engagement with CTE a charitable contribution rather than an investment in a future workforce. All agreed that more regular and broad-based support is needed from employers and industry associations to keep up with rapidly changing labor needs and skills requirements by providing regular input on curriculum, professional development of teachers, and to provide work experience opportunities for students. There is also a need to engage nonprofit intermediaries to manage and significantly expand internships, mentorships and relationships between educators, employers and students.

We are pleased that the Council and the Administration have put additional resources into the budget for CTE this year and that the Mayor's Center for Youth Employment is working with DOE to insure that CTE is a critical component of the city's efforts to create one, integrated and high-performing, demand-driven workforce development system. The traditional model of vocational education, where technical training is not integrated with academic requirements and ends with a high school or GED degree, is simply not appropriate in the 21st century.

We support DOE's efforts to restructure CTE programs to ensure that they are high quality and relevant to market needs. This can only be accomplished through expanded partnerships with nonprofit intermediaries, post-secondary educational institutions, as well as employers and industry associations. It requires changes in certification requirements for degrees and for teacher certification.

Today, business and job location decisions are being based more than anything else on the availability of a highly skilled labor force. Employers who are committed to growing in New York are motivated to invest in solid educational programs that prepare the future workforce. We need a new structure, better tracking systems, and real integration between economic development, workforce development and educational policies and programs. The Partnership members are encouraged that CTE is a priority for the Council and we are prepared to work closely with you to advance our shared goals.

Thank you.

STANLEY S. LITOW
IBM Vice President, Corporate Citizenship and Corporate Affairs,
and President, IBM International Foundation

Testimony before the Committee on Education, New York City Council on
“Career and Technical Education Program in New York City Schools”

September 21, 2016

Council Members Treyger, Palma, Dickens, Gentile, Rodriguez, Ulrich and Borelli, IBM appreciates the opportunity to testify before the Committee on Education on Career and Technical Education programs in New York City that are preparing today’s students for tomorrow’s jobs.

IBM is a major U.S. employer, with headquarters in New York. We have a long history of strengthening the fabric of New York City’s communities, including our work in education, health, and our efforts on disaster relief following 9/11. On a personal note, I too have a dedicated history in New York City and State. I served as Deputy Chancellor for New York City Public Schools from December 1989-July 1993, and currently serve on the SUNY Board of Trustees.

With more than 300 programs in more than 120 high schools, New York City is home to the world’s largest CTE portfolio, and IBM, as lead industry partner for P-TECH Brooklyn, is proud to be part of it.

In 2011, IBM, working in partnership with the New York City Department of Education and The City University of New York, developed the P-TECH 9-14 School Model. Through P-TECH, students earn both their high school diploma and their Associates in Applied Science degree and participate in workplace experiences that include IBM mentoring and paid internships. These comprehensive and integrated experiences enable P-TECH students upon graduation to continue their education in a four-year institution or be first in line for in-demand jobs with their industry partner. Early results are demonstrating that this model continues and deepens the City’s commitment to Career and Technical Education excellence.

As we all know, the need for high quality CTE programs like P-TECH has never been more apparent. U.S. economic competitiveness is seriously undermined by the serious and systemic problem of young people being inadequately equipped to make an effective transition from school to career.

According to the US Department of Labor, employment rates for the nation’s teens, ages 16 to 19, and young adults, ages 20 to 24, were at 60.1 percent in July 2016, down from a peak of 77.5 percent in July 1989.¹ These rates reflect new post-World War II lows. Indeed, the Center for America Progress reports that over the past several decades, not only have employment and

¹ <http://www.bls.gov/news.release/youth.nr0.htm>

labor-force participation among Americans ages 16–24 declined, but the unemployment rate for this group has risen.²

In New York City, home to the largest youth population in urban America, one in seven young people ages 16-24 are unemployed.³ According to the Brookings Institution, in 2010-11, New York City had one of the lowest employment rates of teens aged 16-19 among the nation's 100 largest metropolitan areas.

The consequences are significant. Not only is unemployment negative for young people in the moment, but the negative effects of unemployment linger. According to the Center for American Progress, a young person who remains unemployed for a six month period will lose \$22,000 in earnings over their next decade. If we look at figures for April 2010, there were 967,000 people ages 20–24 who were unemployed for more than six months, meaning that these young people could lose a total of \$21.4 billion in earnings over 10 years. These are consequences that ripple throughout our local, state and national economies.

Education and work experience are critical factors associated with better employment outcomes. Among young adults, postsecondary education, especially when connected to two- or four-year degree attainment, is strongly linked to employment. In addition, teens and young adults were more likely to be employed if they had work experiences in the previous year.

This is why high quality CTE is so critical. At its best, it offers rigorous academic and technical training along with meaningful work opportunities that provide young people with the foundation for ongoing success.

Today, some 12 million U.S. students are enrolled in secondary or postsecondary Career and Technical Education – or CTE – programs. In New York City, more than 120,000 students are participating in high school CTE programs alone.

This is an enormous enterprise, and its ability to impact not only the futures of our young people – but our collective economic prospects – is equally huge. Once known as Vocational Education, CTE has a checkered history throughout the US. It was commonly viewed as a system ancillary to the core issues involved in education improvement and reform. “Voc. ed.” or CTE teachers, principals and schools were most often an afterthought in sometimes contentious discussions about how to improve our schools, where the focus has been on choice, charters, and teacher evaluation systems.

CTE funds were too often spent on equipment, with little serious thinking about curriculum change or alignment first to college and then to career. As a result, its history is that of a second track for students for whom educational excellence was not expected, but a path from high school to work was anticipated. Look at the historical data and it is not a pretty sight.

² <https://www.americanprogress.org/issues/labor/report/2013/04/05/59428/the-high-cost-of-youth-unemployment/>

³ <http://cityandstateny.com/articles/policy/labor/youth-employment-story.html#.V9rAoHqUJeQ>

Our thinking has been forced to undergo change, largely stimulated by fairly dramatic changes in the 21st Century economy and the core issues of U.S. competitiveness that have weakened our nation's economy and put new pressures on government, business and education. It's the economic pain that has dictated a change, first in our views and now, finally, in our actions.

Let's review the facts.

Fact number one: Many job opportunities go unfilled due to the skills mismatch. Many of the well-paying jobs that exist in today's labor force remain vacant because too few job candidates possess the skills needed to fill them. As one example close to home, in August 2013, almost 1,800 IBM jobs were left unfilled, with our company experiencing shortages of skills in technical fields. As a business to business company, we see the same problem with our clients and business partners. In fact, by 2018, some 14 million middle skill jobs, those requiring a two-year postsecondary degree, will be created, potentially heightening the problem.

Fact number two: Less than 25 percent of high school graduates who enroll in postsecondary education via community colleges will earn a certificate or degree within eight years, and the average for young people of color is far worse, with only one in four completing. To lend more clarity, 43 percent of our nation's community college students require remediation. IBM looked at one community college's entering freshman class and using data analytics, we found that if students were enrolled in two remedial courses, one of them being math, they had a 99 percent chance of dropping out of college before the end of the first semester. If students are not college ready, how can they possibly be ready for today's careers?

Fact number three: While U.S. high school graduation rates are improving, students who complete with only a high school diploma and enter the job market right out of high school will see their wages max out at less than \$15 an hour, condemning far too many to lives of the working poor.

These facts demonstrate why innovative CTE schools are so key. New York City is home to many, and I want to further highlight one that IBM has been intimately involved in: Pathways in Technology Early College High School, or P-TECH, the nation's first grades 9 to 14 school.

This unique collaboration between IBM, the New York City Department of Education, The City University of New York, and New York City College of Technology, was launched in September 2011 in Brooklyn, New York.

Every student graduating from P-TECH will earn an Associate in Applied Science degree either in Computer Information Systems or Electromechanical Engineering Technology. That degree will signify that they are college and career ready – able to continue their studies without remediation in a four-year postsecondary institution or to embark upon a career in the IT industry. IBM, with our skin in the game, our steadfast belief in the P-TECH model and its young people, principal and teachers, has promised that successful graduates will be first in line for jobs at our company.

The school is now in the final year – Year 6 – of the model. There are more than 550 students, all of whom were accepted into the school solely based on interest – not grades or testing requirements. The vast majority – approximately 78 percent – are Black and Hispanic males. More than 70 percent of students are on free or reduced lunch and 17 percent have Individual Education Programs because of special learning needs.

Against this backdrop, by any measure, the students at P-TECH are excelling. Twenty-seven students from the first class have graduated early, earning an Associate in Applied Science degree in Computer Information Systems or Electromechanical Engineering Technology within 4, 4.5 or 5 years. Eleven students from the second class have graduated with their AAS in 4 years. Six graduates are now IBMers, making more than \$50,000 per year in jobs in New York City. We expect to hire more students from the recent class of graduates, and all students – even those that are working at IBM – are pursuing ongoing postsecondary education.

These results are just the tip of the iceberg. In fall 2015, more than half of the entire school (or 265 students) were enrolled in at least one of 30+ college courses, including Multimedia and Mobile Device Programming, Digital Control, and College Calculus I and II. Importantly, students earned grades of A, B, or C in 86% of their college courses; only 3% of their college courses were F's.

As a result, in 2015, P-TECH demonstrated the third highest rate of college readiness (90.2%) for black high school graduates of all New York City high schools—behind only Bronx Science and Brooklyn Tech, both of which are selective schools. P-TECH's college readiness rates for black students are higher than any other New York high school that does not have a special entrance exam. Eighty-eight (88%) of P-TECH students who completed high school met college ready benchmarks, the city's top amongst unselective high schools, and 12th overall.

These results can be attributed to the core elements of P-TECH, which demonstrate the great promise of reinventing high school CTE programs along this innovative model.

First, the curriculum is mapped to the skills required in high growth jobs and careers. IBM identified the skills required for entry-level jobs, and working with our partners, developed a scope and sequence of courses that would ensure that students graduated with academic, technical and workplace skills needed in the IT industry. This means that the core curriculum in math, science, English and all other subjects are focused on ensuring that students are career-ready. Our skills mapping process has been documented and is available to any public-private partnership or CTE program wishing to do this same process of alignment.

Second, students move through a personalized academic pathway, aligned to college and career requirements, which is closely monitored by his or her teachers and advisors, based on their individual needs and performance. The focus is on mastery not seat time. The alignment allows students to take the courses as they are ready, reducing the need to wait, repeat courses, or jump over gaps in their learning. As a result, students begin taking college classes the summer after the ninth grade.

Third, all students participate in a 21st Century workplace learning experiences. This includes a workplace learning curriculum that teaches skills like critical thinking, problem solving, and communication and is importantly designed to develop those habits of mind like “persistence” and “grit” that are found in our most successful employees. In addition, each student has a volunteer IBM mentor, who provides academic support, career guidance and invaluable inspiration. While much of the interaction happens in person, IBM also has developed a safe and secure online platform to enable frequent communication, with a focus on academics, between mentors and their students. To further support career-readiness, students participate in structured workplace visits and project-based learning.

Beginning the summer after Year 3, eligible students are placed in skills-based, paid internships. To date almost 170 students in P-TECH schools have participated in internships at IBM, working on projects for Watson Group, Research, Digital Commerce and more. These work opportunities are game changers, enabling students to hone and advance their skills, while they also work on actual projects for IBM and the other businesses that hire them. This type of experiential learning is one of the best ways of linking the workplace to the classroom and provides students opportunities to solve real challenges on today's topics with the current tools in use by potential employers.

Working off the P-TECH playbook, P-TECH has been replicated significantly in just five short years, spreading within and well beyond New York City, offering thousands of 9th graders at 56 schools in 6 states, an opportunity to build successful futures. More than 250 businesses, some working in consortiums, are directly involved, and include other themes, not just IT – such as advanced manufacturing and healthcare.

Based on the early success in Brooklyn, the New York City Department of Education created four additional 9-14 schools in New York City from 2012-2013. There are now a total of seven grades 9-14 schools in New York City. In September 2012, the model spread to Chicago, Illinois with the opening of five schools.

In January 2013, Governor Cuomo announced the largest statewide initiative. NYS P-TECH, a partnership among the Governor, the New York State Education Department, SUNY, and the Business Council of New York State, has launched schools in every economic region of the state serving a wide range of industries. Sixteen schools opened in 2014, another 10 in 2015, and this past September, seven new schools around the state opened.

Connecticut joined the P-TECH 9-14 network in 2014, with the first school in Norwalk, followed by three more schools in September 2015.

In September 2016, eight more schools have opened as more states join, with three new schools in Colorado, two new schools in Baltimore, Maryland, three new schools in Rhode Island and one additional school in Connecticut. Maryland already has plans for expansion.

In addition to these 56 schools in the United States, Australia has adopted the model with two schools under way, and plans for an additional 12 schools.

Many other states, with support from local business, are approaching IBM to discuss state-wide replication. Business interest in this issue is very high, born out of the necessity of changes in the economy.

Replication has moved rapidly because, as a public school model, spending for these schools is the same as other public schools. In addition, because they embrace open enrollment, we know that this model works in communities with significant and serious economic and educational needs and can address great disparities in opportunity that have plagued many school districts across the country.

I, and a great many others, strongly believe that this model is so significant, and the early results so impressive, that we can and will see dozens more grades 9-14 schools opening along this model. But dozens of schools is hardly enough. For the U.S. to be competitive we need more – much more. It will take many other political leaders, like Mayors and Governors, supporting it, many more companies stepping up as we at IBM have, and many higher education systems, like CUNY, motivated by the high completion rates and strong link to employment, owning it.

The good news is that high quality CTE programs, like those modeled after P-TECH, have the potential for significant new support through the reauthorization of the Carl D. Perkins Career and Technical Education Act.

Just last week, on September 13, the U.S. House of Representatives passed H.R. 5587, the Strengthening CTE for the 21st Century Act, by a vote of 405 to 5. The bill provides significant support to CTE schools like P-TECH and gives states and localities more flexibility to improve upon high-quality CTE programs. Importantly, it also encourages greater innovation necessary to prepare workers for in-demand 21st century careers. The Senate mark-up of the bill began yesterday.

Perkins reauthorization paves the way for New York City to support more schools like P-TECH that provide a clear path from school to career. The federal funding will encourage it, more employers are interested, more students will benefit and New York City will reap the financial benefit. Key changes in the law include:

- Alignment of secondary and postsecondary curriculum to labor market needs in high-growth industry sectors
- Strong collaborations among secondary and postsecondary institutions
- Participation by local employers in making link between curriculum and needed workplace skills
- Workplace experience for students through internships, apprenticeships and mentorships with local employers, and experiential teaching methods such as work-based learning classes and project based learning

In New York City, the task for today's CTE is to illuminate numerous paths to success for students to ensure that they are both college and career ready. With high-quality preparation for college and career, our graduates will have access to meaningful, long-term career opportunities and a hopeful future. This is not a pipedream, it can be done. It requires political will and action, and the support from business, labor, universities will follow, as the results begin to show that CTE programs can revolutionize New York City and American education – and our local and national nation's economy. We're seeing it right now in Brooklyn, New York, with a group of inspired, motivated young people whose dreams are now within reach.



tech:nyc

**Testimony Before the New York City Council
Committee on Education
September 21, 2016**

Good afternoon Chair Dromm and members of the Committee on Education.

My name is Julie Samuels and I am the Executive Director of Tech:NYC. Tech:NYC is a non-profit trade group that launched in May of this year with the mission of supporting the technology industry in New York, by, among other things, increasing engagement between our industry and New York City and State government. Our five founding member companies are AOL, Bloomberg, Facebook, Google and Union Square Ventures. In the roughly five months since we started, more than 300 companies have joined as members of our organization.

As a quick aside, today marks the first time that a representative from Tech:NYC is testifying before the City Council. We look forward to having an extensive and constructive working relationship with this body. My colleagues and I have met some of you already and will be scheduling meetings with many of you and your staffs in the coming months. We are always available if you have questions or issues related to technology companies in New York.

On behalf of our roughly 300 member companies, I am here today to testify in support of Intro. 1193, sponsored by Council Member Mark Levine, which would require the New York City Department of Education to track and report information regarding computer science programs offered to students K to 12.

Representing a broad collection of technology companies with a significant presence in New York City, Tech:NYC is particularly interested in emphasizing the value of, and need for, a sustained and meaningful commitment to computer science education for students at all grade levels in New York City public schools.

Without a doubt, technology is a rapidly growing part of the New York City economy. The technology industry in New York City is responsible for roughly 300,000 jobs and generates nearly 15 percent of the city's total tax revenue. Between 2007 and 2014, tech employment in the city grew 57 percent, nearly six times faster than overall citywide employment growth. The U.S. Bureau of Labor Statistics projects more than 1.4 million computer specialist job openings nationally by 2020.

Our organization firmly believes that in a city as uniquely diverse as New York, technology education in public schools must serve as a vital springboard for young workers entering the workforce from a wide variety of economic and cultural backgrounds.



But despite the clear need for computer science education to prepare our students for the jobs of tomorrow, as recently as last year, fewer than five percent of New York City public school students have access to computer science education. Nationwide, the statistics for educating female students and students of color are similarly disappointing: according to the College Board, of the 30,000 students that took the 2013 AP computer science exam, fewer than 20 percent were female, only three percent were African American, and approximately eight percent were Hispanic.

As a result of this and similar trends nationwide, our industry is increasingly concerned that we will not be able to fill these jobs. And students who will be qualified to fill these jobs are less likely to reflect the diversity that is so vital to New York's character. This is why we must work together to give all of our 1.1 million students the tools they need to succeed in the technical fields where so many jobs do, and will, exist.

We applaud Mayor de Blasio's Computer Science for All (CS4All) initiative, a 10-year, \$80 million public/private partnership to offer computer science to every student and every school in the City. This is an unprecedented effort to expand a new content area inside urban schools, and it will train nearly 5,000 teachers across all grade levels, K through 12. This type of commitment is already delivering on the promise of preparing our city's students to thrive in the new economy while also ensuring that New York City preserve its place as the preeminent global city to locate and develop a business.

As part of our support for the CS4All initiative, we urge the Council to pass Intro. 1193. Its detailed public reporting requirement will help to ensure that collectively, as lawmakers and business leaders, we follow through on the Mayor's commitment to provide computer science education for all students. We offer our assistance to help move this bill forward and will gladly answer any questions at this time.



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Gale A. Brewer, Borough President

Testimony to the New York City Council Committee on Education Manhattan Borough President Gale Brewer September 21, 2016

I am Manhattan Borough President Gale A. Brewer. I thank Chair Dromm and the Committee on Education for scheduling this hearing on the state of Career and Technical Education (CTE) schools in New York City. Intro 1099 would require the Department of Education (DOE) to report information on CTE programs in schools and Intro 1193 would require the DOE to report information on computer science education in New York City schools.

I have long been an advocate for giving students the adequate tools to succeed in today's ever changing world. Career and Technical Education Schools do just that, emphasizing small class size, experiential learning, and skills acquisition. Further, CTE schools must offer a sequence of classes that could lead to local, state, or national certification in a given field. For example, students at Food and Finance High School get ProStart, a national certification for food workers. This is a great career-starter for all students.

There are sixteen dedicated CTE high schools in Manhattan, and I have seen students engaged as learners and acquiring field specific knowledge from industry professionals. This past January, students from Food and Finance High School catered my State of the Borough address, attended by over 600 people. Last December students from Urban Assembly Gateway participated in Computer Science Week at Civic Hall, talking about what learning computer science has done for them, and how it has helped them think about solving some of the world's most pressing problems in new ways. We are impressed by UA Gateway's civic approach to learning and this year we are partnering with them to implement a Data Science curriculum at their school, where we will be using data available in the NYC Open Data Portal to teach students about how to solve local NYC civic problems using statistics, computer coding and mapping skills. At the Urban Assembly Green Careers High School on the Brandeis High School campus the graduation rate has gone up in the last two years, and the school has gone from an "F" to the "Well-Developed" category and is winning awards. The garden attached to the school is giving students many assets, including a living laboratory to learn about horticulture, sustainable landscaping, wildlife habitat maintenance, storm-water retention, and urban agriculture. Their farm stand has taught them business skills, as has a partnership with a local restaurant, Jacob's Pickles.



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Gale A. Brewer, Borough President

It is worth mentioning though that New York City's CTE schools are highly concentrated with low-income students of color. A demographic analysis of CTE schools in Manhattan indicates that on average, 82.25% of students are on free or reduced lunch, 29.18% of students are Black and 55.3% of students are Hispanic. Parents sometimes think that CTE schools are an updated version of vocational school, and that serious academic students should avoid going to CTE programs because they are perceived as an academic step-child.

To address these questions, we need to examine the way CTE admissions are done. First, all CTE schools are limited unscreened schools. This means there are no grade requirements, and students are given preference based on if they signed in at an information session. Since 2004 the high school admissions process has become automated, where students are handed a 600+ page *Directory of Public High Schools* and asked to rank 12 schools they want to attend. Using an algorithm they are matched to one school. Because of the intricacies of the matching system, students are encouraged to include as many schools as possible, and often include schools they have no intention of attending. So each year, there is a considerable number of students in each incoming class, where students have no interest in learning about the niche field, and because principals also do not know how incoming students have ranked their school choices, they are forced to deal with students' lack of interest in the field in class, and it interferes with other students' learning. Because of the highly specialized nature of CTE programs, it is essential that principals are given some control over their incoming class. Students should be asked to express interest in their CTE field of study that goes beyond signing in at an open house.

Giving principals more control over the makeup of their incoming class will also help address the lack of diversity in CTE schools because principals can ensure they are recruiting a diverse set of learners, and are also able to share the varied academic opportunities available to all students.

We must also give CTE schools flexibility to provide intentional learning opportunities for their students. Currently, CTE schools must pay for necessary industry specific equipment repairs out of their own school budget. The Department of Education should identify targeted funding streams, so schools do not have to use their general operating budget for necessary repairs. Additionally, some flexibility must be granted in how students pursue outside learning opportunities. Last year, the Department of Education implemented a new rule that students could not travel out of borough for their College Now classes. For Food and Finance High School that has meant students can no longer take classes at Kingsborough Community College, in Brooklyn, where the college offers comprehensive culinary arts courses.



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If we are truly invested in the success of CTE schools, we must grant the schools some flexibility in how they recruit students and operate.

We are also here today to talk about Intro 1193, which would require the DOE to report information on computer science education in schools.

In today's changing economy, it is critical that our schools keep up-to-date and provide students with the tools to succeed. For years, my office has been an advocate for STEAM in schools. This doesn't just mean putting computers in classrooms – it means building pipelines to ensure that students can take coursework that will help them understand and shape the world they're inheriting from us. In New York City, because of the Computer Science for All Initiative, we are making some strides that ensure every child has access to statistics and computer science courses.

We also need to ensure that we have teachers who have the content knowledge to teach these courses. In New York City, out of the 75,000 public school teachers, less than 100 teach computer science, largely because currently there is no state recognized computer science certification, and teachers who are teaching computer science courses are primarily math or science teachers who have taught themselves computer science. I know Hunter College is working on creating a computer science certification both for new teachers and career professionals, but we must address the numbers problem, and incentivize new teachers to pursue this computer science certification.

I join Hunter College in urging the State Department of Education to grant state certification for Computer Science teachers, so they can be hired at DOE.

Another hurdle that CTE schools face is the arduous state approval process. Developed in 2001, it takes from four to six years for programs to get approved at the state level. Careers in technology are evolving, and with newly emerging fields like data science- it is important that our schools are incentivized rather than face hurdles to keep up. The CTE approval process must be streamlined and sped up.

One gap I see in Intro 1193 that I would like to see added is information on the bandwidth capacity available at each school. From my visits, I know that schools need access to fast bandwidth, and access to faster connections to the internet in the classroom. Web based resources are essential to both students and teachers, and are an integral component in CS lesson plans- which must then be altered due to connectivity issues, disrupting the students' focus and understanding of the curriculum.

Though this is a widely discussed problem, there does not seem to be an accurate and consistent measure of bandwidth speed. Bandwidth data provided to me last year by the



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DOE for schools that I had given capital funds to show that most schools have bandwidth provisions between 10-40 Mbps, which is horribly slow.

These bandwidth speed numbers at the schools do not match what was listed in the Smart Schools Bond Act Investment Plan that was brought before the Panel on Education Policy earlier this year. The investment plan shows schools' burstable speed instead of dedicated bandwidth. Listing a school's burstable speed is a misleading metric, since it is a speed most schools will never achieve. In order for us to address the bandwidth speed in our schools and classrooms, it is of utmost importance that we obtain a clear picture of what the current reality is. We must understand why these discrepancies exist and figure out how to achieve the most consistent speed measures before allocating programmatic, technology and infrastructure spending to specific schools.

I conclude by thanking the Committee for scheduling this hearing on CTE schools and on the state of computer science in New York City public schools.

Education Committee Hearing on Career and Technical Education Programs and Int. 1099 & 1193

Good afternoon, Chairman Council Member Daniel Dromm and other distinguished council members of the Education Committee. My name is Chantella Mitchell and I am the Policy and Program Associate at **JobsFirstNYC, a policy to practice intermediary focused on the issues of young adults who are out of school and out of work or underemployed.**

Today, there are more than 184,000 New Yorkers 16-24 who are out of school and out of work. This figure includes young adults who have dropped out of high school as well as those who have completed school and are unprepared to successfully transition to higher education or employment. In addition to the large out-of-school, out-of-work young adult population in New York City, there is a large group of young New Yorkers who are underemployed. According to a 2016 report from the New York City Comptroller, greater than 47 percent of 16-25-year-olds in New York City work in low-wage service jobs or retail. We believe that delivering quality career preparation and work experience programs within the K-12 system is one necessary strategy to decrease the numbers of young adults who enter the out-of-school, out-of-work population, and those who graduate and enter the labor market unprepared for living-wage careers.

Career and Technical Education (CTE) programs are one example of this effective strategy. The strength of CTE programming includes its focus on specific sectors. As JobsFirstNYC highlighted in its 2016 report, *Optimizing Talent: The Promise and the Perils of Adapting Sectoral Strategies for Young Workers*, when developed and resourced properly, sectoral strategies can successfully prepare young adults for in-demand, well-paying jobs. Moreover, CTE programming includes structured engagement with specific businesses that is mutually beneficial for students and for employers looking to develop talent pipelines within their companies and industries.

In addition to partnering with employers, some CTE schools also partner with community colleges to offer students college credit or even Associate's Degrees as part of an extended high school experience – while the seven existing 9-14 Early College CTE schools in NYC are fairly new, they are showing positive employment and college enrollment outcomes for graduates. Finally, local CTE programming has proven its value through some promising early outcomes. A 2014 Community Service Society study found that graduation rates for students at CTE were overall better than those at non-CTE schools, and black and Latino male students at CTE schools had significantly higher graduation rates than those at traditional public schools.

However, as the City prepares for the expansion of CTE programming, it must address several implementation challenges. There is a need for increased data collection around employment outcomes for CTE graduates. The same 2014 CSS report found that while graduation rates were higher for many CTE students, CTE students had lower levels of college readiness and there was no available employment outcome data on CTE graduates from the Department of Education. In order to truly prepare students for in-demand careers, internal CTE processes should be made more efficient to allow schools and their partners to be more responsive to the local job market and economic shifts. An August 2016 article from Chalkbeat New York reported that the slow moving and inflexible bureaucracy involved with becoming CTE certified by the NY State DOE was the greatest challenge to partnering with schools for CTE work. Finally, CTE programming should not be the only career preparation and work experience programming option for students. Too much focus on CTE exclusively limits investments and attention for other successful in-school career and education program models run by nonprofits and community colleges. While some of these programs offer training in one specific sector, others focus on student choice and career exploration, offering students the flexibility to choose from an array of sectors, unlike CTE. These programs also offer students a successive learning framework, building on students' knowledge and experience from 9-12th grade.

At JobsFirstNYC, our goal is for all young New Yorkers to benefit from the vibrant economic life of New York City. We believe that CTE, when implemented well, is one strategy for decreasing the numbers of young adults who are out-of-school and out-of-work and underemployed. We urge the City to:

- Require that the DOE provide more information around certificate attainment, employment outcomes, and post-secondary enrollment related to the CTE training sector, specified by bill number 1099;
- Collect evidence related to employer involvement and advisement in CTE schools; and
- Improve the implementation of successful CTE programming while investing in complementary career preparation and work experience programs for students.

JobsFirstNYC was recently commissioned by the James and Judith K. Dimon Foundation to examine the in-school career exploration and work experience programs in the Bronx, including CTE, in context of in-demand occupations and economic development in the borough. We are happy to share this report with the Council upon completion and look forward to the continued work together.

Thank you,

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Testimony regarding oversight of Career & Technical Education programs in New York City schools and Int 1099-2016

September 21, 2016

Testimony of Graphics Industry Advisory Commission vice-chair Jack Powers before the New York City Council Committee on Education

Good afternoon. My name is Jack Powers and I am a long-time industry partner with New York City Department of Education's Career & Technical Education programs. I am the Vice-Chair of the Graphics Industry Advisory Commission and a Member and Past Chair of the citywide Advisory Council for Career & Technical Education, and I serve on numerous advisory bodies in K-12 and higher education in the New York. I've been a volunteer for nearly 30 years supporting CTE students, teachers and administrators. My testimony today is my own, not necessarily reflecting the views of any other group.

I want to thank Chairman Dromm and the entire Committee for paying so much careful time and attention to Career & Technical Education. There is a lot of happy talk about career readiness and workforce training issues these days, but the hard work of managing the development and delivery of high quality CTE is often pushed off the agenda by squeakier wheels and more telegenic topics.

New York City's several hundred CTE volunteers like me -- employers, trade unions, colleges, community organizations and government agencies -- advise the Department of Education on the development, administration, and evaluation of policies and programs relating to Career and Technical Education.¹ Under the original establishing state education law, we reported directly to the Board of Education alongside the Chancellor. Nowadays we report to a department within the Department of Education.

There are about 120,000 students in over 300 CTE programs across the five boroughs. They study traditional vocational subjects like carpentry, culinary and cosmetology and newer topics like databases, healthcare IT and digital design.

These days, things are not bad for CTE: The department within the Department has some good people doing some good things. But I'm on my 12th Chancellor, and I know that large organizations need some outside perspectives to strengthen their strategic vision and guide their tactical decision-making. I believe Education Committee oversight can help widen the scope and improve the effectiveness of the DOE's efforts.

That is particularly true for Career & Technical Education, programs related to the fast-changing real-world developments in business, technology, economics and government policy that are reshaping our world.

In 1987 when I first became a Member of the Graphics Industry Advisory Commission, kids at the High School of Graphic Communication Arts on 49th Street were learning how to set type by hand using lead type, letter by letter just like Ben Franklin did. Today we have programs in web development, digital illustration, 3D package design, streaming video production and more. We made many recommendations and choices along the way, and we brought many partners to the process. Kodak, Heidelberg and Xerox were part of the journey; Apple, Adobe and the *New York Times* are part of it, too.

Beyond my field of graphics, that same fast evolution and strong industry collaboration is happening in every one of the CTE programs around New York. New ideas from the STEM field (Science, Technology, Engineering and Math) – what I think of as CTE's little brother – are further expanding the interactions.

And it's not just tech. Council Member Lander recently issued an insightful study on the future of work in the gig economy.² Uber and Airbnb are just the tip of the iceberg. Artificial intelligence, machine learning, autonomous systems,

algorithmic management -- our young people are facing profound changes in what it means to find your place in the workforce.

How can a teacher in a classroom, an administrator behind a desk at Tweed -- or a regulator in Albany -- keep up with all the changes in the way work gets done? Experts in an academic bubble can't do it alone. It takes the collaboration of citizens and practitioners, of employers and unions, of parents, students, educators and policymakers to get it right.

There are a lot of challenges ahead for CTE: keeping the curriculum up to date; expanding industry certifications; strengthening post-secondary options; reviving apprenticeship; and most of all finding and keeping great teachers.

I stand in support of the proposed legislation to improve the oversight of the Department of Education's Career & Technical Education operations.

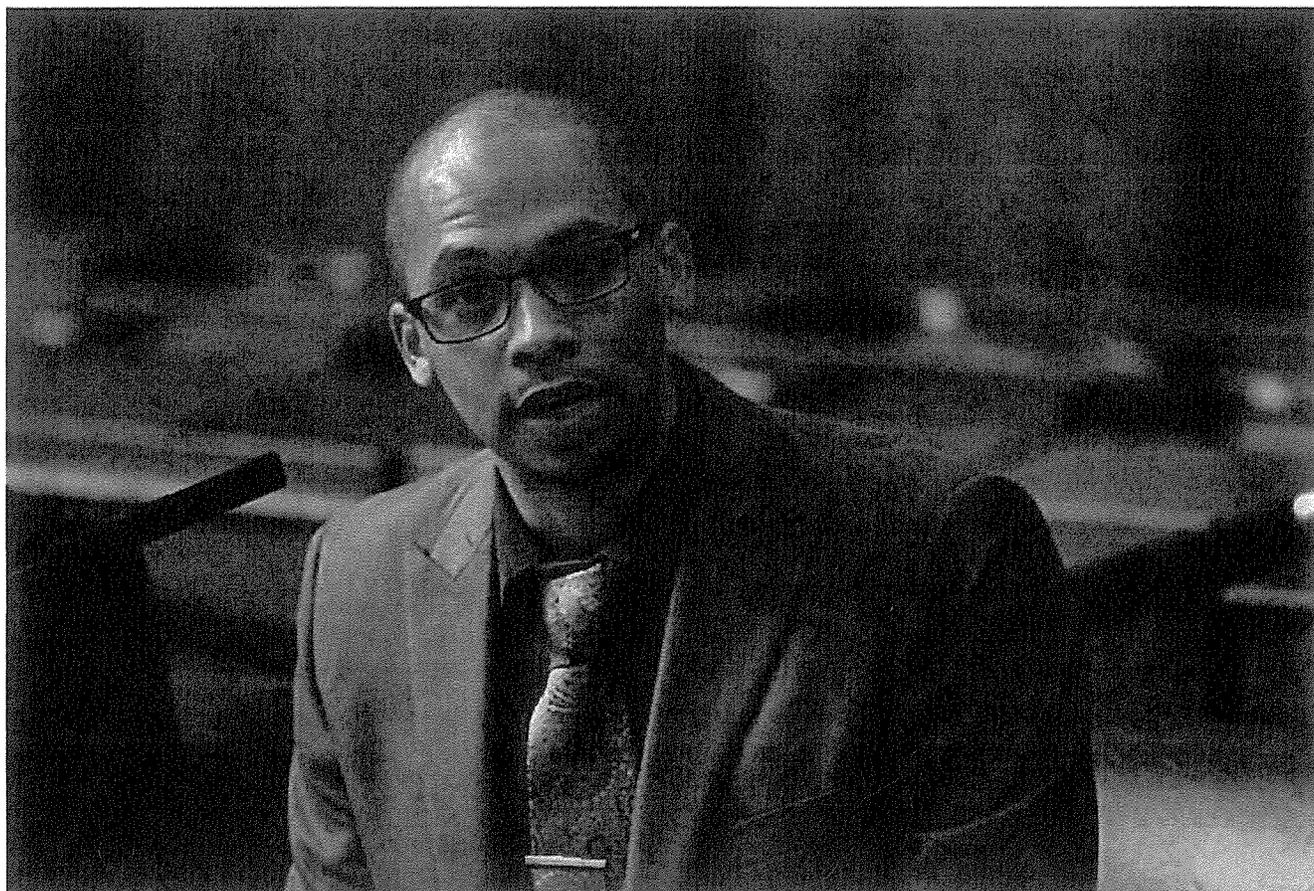
Jack Powers
Institute for Career & Technical Education
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405 Fourth Street
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646-207-1967 / JPowers@IN3.ORG

¹ "Advisory Council for CTE". *New York City Career & Technical Education*. (Accessed September 20, 2016)
<http://cte.nyc/site/content/industry-partnerships/advisory-council-cte>

² Lander, Brad. *Raising the Floor For Workers In The Gig Economy: Tools for NYC & Beyond*. September 5, 2016.
<http://bradlander.nyc/news/updates/raising-the-floor-for-workers-in-the-gig-economy-tools-for-nyc-beyond>

New York City's hidden literacy crisis

By Kevin Douglas



New York City is in the midst of a growing crisis, but it is one hidden from the front pages, since those most affected are often without a voice: it is the crisis of New Yorkers who can't read, write or speak in English. It is shocking that in a city of 6.4 million working age adults, 2.2 million – over a third – lack English proficiency or a high school diploma. To put the scale of this crisis in context, if you took these New Yorkers and created a new city, they would tie Houston, Texas, for fourth-largest in the nation. Though they wash our dishes, drive our taxis, cook our food and care for our children, these New Yorkers are all but invisible in the city's budget priorities.

This observation will not be surprising to any of the 6,300 adult learners who lost access to their language and education classes in 2015. Despite the protests of hundreds of students, teachers and allies who rallied on the steps of City Hall, Mayor Bill de Blasio axed over \$6 million from the already anemic funding streams that support English for Speakers of Other Languages and High School Equivalency Preparation classes. As a result, thousands of New Yorkers who had been exhorted all their lives to learn English and pull themselves up by their bootstraps suddenly found that the very means to

do so were no longer within reach. In a city where over 200 languages are spoken and immigrants comprise 43 percent of the workforce, the decision was perplexing and counterproductive.

Education is often referred to as the great equalizer, and for good reason. Census data consistently demonstrates that the more education an individual has, the more likely they are to be employed, and the more earnings they bring home. And this has a positive economic effect on local communities and businesses. A 2009 study by the Community Services Society pegged a high school diploma's value to New York City at \$324,000 over the diploma holder's lifetime as a result of their increased income tax contributions and a decreased reliance on social services. According to another study done by the Lexington Institute in 2013, Spanish-speaking immigrants with limited English proficiency lose roughly \$3,000 per year in earnings as a direct result of their language deficit.

At a time when the nation is focused on issues of income inequality – and nowhere more so than here in New York City, where de Blasio has made confronting inequality a central goal of his administration – funding adult literacy classes that create pathways to higher education, skills training and better paying jobs would seem an obvious strategy. Investments in adult literacy would also complement the mayor's broader agenda. For instance, his signature accomplishment to date – the establishment of a program of universal pre-kindergarten – was embraced by the immigrant community, with thousands of children from limited English proficient households enrolling. The challenge for these children, however, will be coming home to parents unable to read to them in English, help them with their homework, or communicate with their teachers as they advance through the school system. Similarly, the mayor's initiative to expand health care to the undocumented is laudable, but will be tested by the inability of patients to understand their medical providers or to read the instructions on their medication. Investing in adult literacy can only further the success of initiatives like these.

With this year's budget to be decided in the coming weeks, the fate of 2.2 million adults in need of English skills or a high school diploma rests on the values and priorities of our city leaders. It is time for this silent crisis to end with a real investment in adult literacy programs. Over 15,000 New Yorkers currently sit on waitlists for literacy classes, and with just a \$16 million investment – .0002 percent of the mayor's proposed budget – nearly 9,000 of them could be served. They deserve no less.

Kevin Douglas is Co-Director of Policy and Advocacy with United Neighborhood Houses of New York (UNH), a membership organization serving 38 settlement houses throughout New York City.

- See more at: <http://nynmedia.com/news/new-york-city-s-hidden-literacy-crisis#sthash.KqkRasII.dpuf>

City awards ‘embarrassingly’ few HS equivalency diplomas

By Susan Edelman

January 31, 2016 | 2:13am



Modal Trigger

Rose-Marie Mills Photo: Department of Education

The city Department of Education touts its \$47 million-a-year adult-education program as the biggest in the state and second-biggest nationwide, but last school year it awarded just 299 high-school equivalency diplomas, The Post has learned.

About 27,000 people over age 21 were enrolled in classes offered by the DOE’s Office of Adult and Continuing Education, including 15,700 learning English as a second language and nearly 11,000 in basic education classes that can lead to a diploma.

While many of the DOE’s adult students are immigrants with little schooling, few eventually advance enough to take the high-school equivalency exam.

Frustrated staffers call the OACE’s performance “embarrassing” and “totally unacceptable.”

“Why can’t we move them to a ninth-grade level and get them ready for the test?” an insider asked.

Many blame Superintendent Rose-Marie Mills, who has led OACE for three years. They charge she has squandered funds, hired friends without adult-ed experience as administrators and failed to give teachers the curriculum they need to help students. “There’s no feedback, no support, no curriculum. We’re left to our own devices,” said a veteran teacher.

OACE faculty members have sent anonymous letters to Schools Chancellor Carmen Fariña, calling Mills, a former superintendent of District 19 in Brooklyn, a “tyrant” and pleading that Fariña investigate her management, hiring and spending. The DOE said those concerns were “unsubstantiated.”

‘There’s no feedback, no support, no curriculum. We’re left to our own devices’

- a veteran OACE teacher

The staffers question why OACE needs its own tech team headed by Marvin Superville, a former assistant principal and Mills’ friend, when the DOE provides computer support to every school. The tech team costs at least \$290,600 a year in salaries.

Mills’ aide Thomas Trocco, who makes \$120,388 as “director of special projects,” has led training workshops, though he has no certification as a teacher or administrator. The DOE said he doesn’t need any.

Teachers say Mills pushes them to test students excessively — before they have had a chance to progress — simply because the state rates adult-ed programs on the frequency of exams, as evidence of attendance.

People enrolled in adult-ed are classified at six levels, based on tests. Those who score at the top two levels — at least ninth-grade ability — may take the high-school equivalency exam.

OACE reported 1,563 students reached that level in the 2013-14 school year. But last year, only 316 took the Test Assessing Secondary Completion (TASC), and 299 passed it.

Two dozen other NYC nonprofits and agencies that offer adult high-school equivalency classes, including CUNY and the New York Public Library, have collectively proven more successful. Last year, a total 12,070 took the test in NYC, and 40.6 percent, or 4,900, passed. Mills admitted her numbers are low. **“We need to see more people getting a high-school equivalency,”*** she said.

Filed under [department of education](#) , [education](#) , [high school](#)

<http://nypost.com/2016/01/31/city-awards-embarrassingly-few-hs-equivalency-diplomas/>

*** The reason I highlighted this statement is because it is at the crux of the matter.**

Diann Jenkins



Advocates for Children of New York

Protecting every child's right to learn

**Testimony to be delivered to the New York City Council
Committee on Education
Re: Access to Career and Technical Education Programs
for Students with Disabilities and English Language Learners and Int. 1099-2016
September 21, 2016**

Good afternoon. My name is Sam Streed, and I am a policy analyst at Advocates for Children of New York. For over four decades, Advocates for Children has worked to promote educational access in New York for students who have traditionally been marginalized by the education system, including students who are economically disadvantaged, English Language Learners (or ELLs), students with disabilities, and students of color.

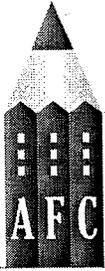
Over the past few years, Advocates for Children has become increasingly involved in advocacy relating to Career and Technical Education, or CTE, with a focus on efforts to reduce barriers to access for students with disabilities and ELLs. In New York City in 2015, only 38% of students with disabilities and 37% of ELLs graduated by the end of four years of high school – far behind the citywide average of 67%. Furthermore, students with disabilities drop out at almost twice the rate of general education students; ELLs drop out at nearly three times the rate of their peers.

While CTE for high school students is not a panacea, it can help address these dismal outcomes. Featuring hands-on skills-building with real world applications, CTE is shown to help keep at-risk students – such as ELLs and students with disabilities – engaged and on-track for graduation. Students in CTE programs are less likely to drop

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out of high school and more likely to be engaged and successful in academic courses than their peers. They are also more likely to secure employment after high school.

Some of the benefits for these student groups can be seen here in New York City. According to NYC Department of Education (DOE) data submitted to the State for the 2014-15 school year, students with disabilities who completed at least two CTE courses graduated from high school at a rate of about 64%—that’s 26% higher than students with disabilities who were *not* CTE students. Similarly, about 60% of ELLs who completed at least two CTE courses graduated from high school, as compared to only 34% of ELLs who did not pursue a CTE program.

But while students with disabilities and ELLs generally do well in the city’s CTE programs, both groups are underrepresented among CTE students. In 2015, students with disabilities comprised about 12% of students who took two or more CTE courses, versus almost 17% of the overall cohort. And only 3% of CTE students were ELLs, versus 10% of the total cohort. This disproportionality points to a disparity in access for both groups.

For those students with disabilities and ELLs who *are* in CTE programs, we currently cannot tell from public data whether they have equitable access to the full range of available programs. We are excited about the renewed interest in CTE and the numerous new programs focused on emerging Science, Technology, Engineering, and Mathematics (STEM) fields. However, we are concerned that students with disabilities and ELLs will face barriers to these programs – and instead be tracked into more traditional vocational education programs, such as cooking or carpentry – essentially creating a two-tiered system of CTE.



Advocates for Children supports the idea behind **Intro. 1099**, the CTE reporting bill before the Committee today. Public data is essential to ensuring that under-served groups such as students with disabilities and ELLs have access to the diverse array of CTE programs. This is especially important considering the significant and persistent need for successful interventions for these two groups. With close monitoring and appropriate follow-up, increased transparency could help the DOE identify barriers to access, such as a lack of available supports and accommodations or issues with physical access or safety. We would, however, like to suggest some changes that we believe would strengthen the bill – such as tracking ELL participation in CTE – and would be pleased to discuss further with the bill’s sponsors.

More broadly, as the city continues to grow its CTE offerings for high school students, we recommend closely monitoring to what extent CTE programs are designed and equipped to serve students with disabilities and ELLs. AFC thanks Mayor Bill de Blasio and the Council for including budget increases for CTE programs over the next four years. In developing new programs, the DOE should prioritize schools that commit to increasing access for these groups. With its sheer size and demonstrated commitment to CTE programming, NYC can truly be a laboratory for innovation in CTE. But at each step, the city should *also* ensure that students with disabilities and ELLs have equal access to this valuable educational option.

Thank you for the opportunity to speak today. I am available to answer any questions now or afterward.



BE FUTURE
READY

Good afternoon, my name is Tara Bellevue and I am the New York State Director for NAF. NAF solves some of the biggest challenges facing education and our economy.

For over 30 years, NAF has been transforming the high school experience for students and teachers.

With the creation of the first academy of finance in New York City, NAF defined college and career readiness. The NAF academy – a “school within a school”—marries rigorous academic requirements with career-themed courses and workplace experience.

Currently, there are over 30 NYC NAF academies across five career themes including: finance; hospitality and tourism; information technology; engineering and health sciences that serve over 6000 students.

Teachers collaborate across subjects to create relatable lessons for students, while galvanizing local business leaders who serve as advisory board members.

Schools and districts that use the NAF educational design are transforming and revitalizing high school education.

Students have access to professional mentorship, build career networks, and gain exposure to the business environment. When students are able to apply their learning outside the classroom and interact regularly with business professionals, academic achievement and graduation rates rise.

Students who display risk factors for dropping out learn to trace a solid line from what they study in class to its application in the workplace. Their NAF academy experience ignites their passion for learning and paves the way for future success.

Whether you come to NAF as a student, parent, teacher, principal, superintendent, business professional or community member, you have the ability to strengthen our city’s educational and economic future.

Thank you for your time and consideration.

address

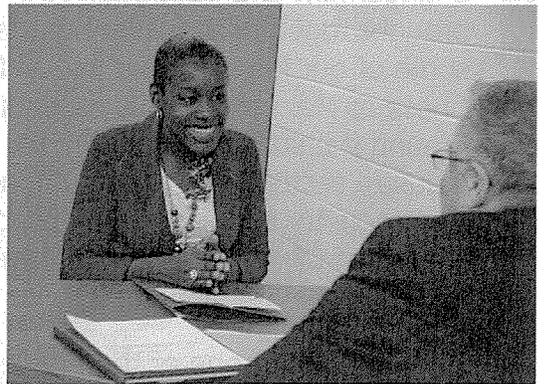
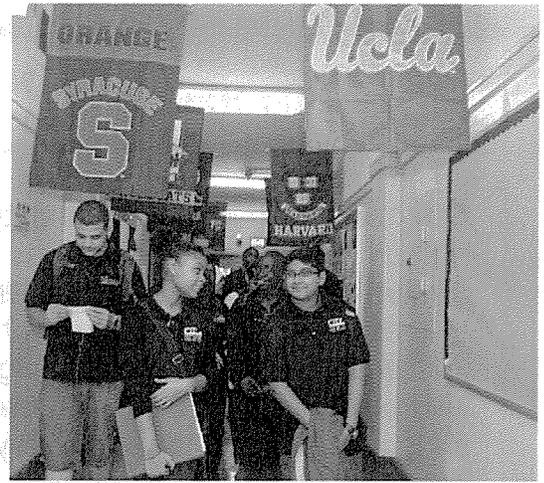
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telephone

212-635-2400



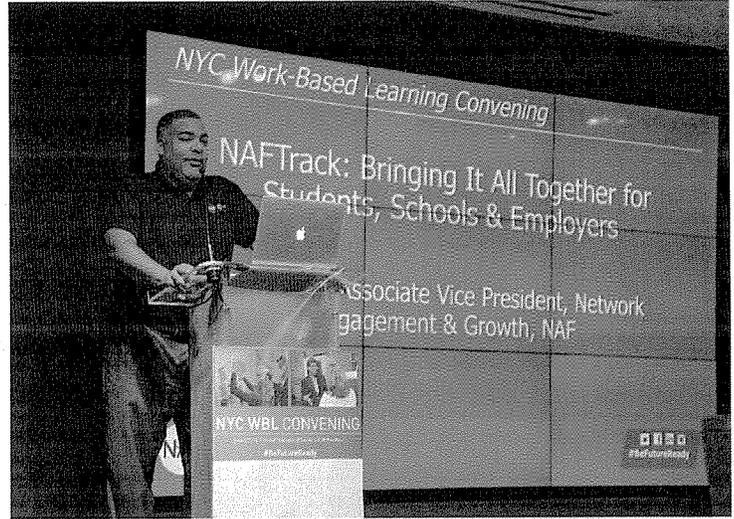
NAF in NYC September 2016

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Partnership Highlight

New York City had the opportunity to host the first WBL Convening in conjunction with the United Federation of Teachers and NYC Department of Education. This unique convening was pivotal for NYC educators because it bridged the gap between industry engagement and pedagogy. NAF brought together industry experts from some of our key partners like JP Morgan Chase to Marriott to WBL experts from around the state of New York to industry sector experts who support the NYC industry commissions; all facilitated by NAF staff who provided guidance and support that was unmatched.



In the words of one of the Academy of Health Sciences participating, "The greatest value our team experienced during this learning convening was to be able to learn about the NAF's approach to work-based learning. That we do not have to re-invent the wheel but instead use what it is already created and modify it to our academy's needs. In addition, being able to meet individually with each Content Experts was a great resource for our team. We had the chance to meet and learn about strategies to strengthen parent and family involvement, virtual internships and creating partnerships between industries and educators and creating an advisory board. Also considering we are just starting the process these strategies are vital in ensuring we start the WBL process smoothly."

NAF in New York City

6,134 STUDENTS



58%
MALE

42%
FEMALE

47% Hispanic/Latino
27% Black/African American
14% Asian
10% White
1% Other/Multi-racial
<1% Native American/Alaska Native
<1% Pacific Islander

81% low-income students based on eligibility for free & reduced price lunch

31 NEW YORK CITY NAF ACADEMIES

45% STEM-related

29% Finance
26% Hospitality & Tourism
23% Information Technology
16% Engineering
6% Health Sciences



28 SCHOOLS

297 ADVISORY BOARD MEMBERS

OUTCOMES

92% of seniors graduated

93% college-bound graduates

401 internships completed

NAF in New York City – 2016 – 2017 SY

Bronx

- Academy of Language and Technology
- Alfred E. Smith High School Academy of Finance
- Bronx Engineering and Technology Academy
- Bronx School of Law of Finance

Brooklyn

- Academy of Hospitality & Tourism High School
- Brooklyn Academy of Global Finance
- City Polytechnic High School of Engineering, Architecture, and Technology
- High School for Enterprise, Business, and Technology
- James Madison High School Academy of Finance
- James Madison High School Academy of Information Technology
- Academy of Urban Planning
- Frances Perkins Academy of Information Technology

Manhattan

- High School of Economics and Finance
- High School of Hospitality Management
- Jacqueline Kennedy Onassis High School Academy of Hospitality & Tourism
- Manhattan Bridges High School Academy of Information Technology
- Broome Street Charter High School Academy of Information Technology
- University Neighborhood High School Academy of Hospitality & Tourism

Queens

- Academy of Finance and Enterprise
- Benjamin Franklin High School of Finance and Information Technology
- Construction, Trades, Engineering and Architecture
- Grover Cleveland High School Academy of Hospitality & Tourism
- Grover Cleveland High School Academy of Information Technology
- International High School for Health Sciences
- Long Island City High School Academy of Hospitality & Tourism
- Richmond Hill High School Academy of Health Sciences

Staten Island

- Port Richmond High School Academy of Hospitality & Tourism
- Susan E. Wagner High School Academy of Finance
- Tottenville High School Academy of Finance

NAFTrack Certified Hiring

Launched in 2015, NAFTrack Certified Hiring is a groundbreaking initiative through which America's leading companies have committed to give special hiring consideration to NAFTrack Certified alumni. Their recognition of NAFTrack Certification makes it a true differentiator in the hiring process that holds real value for both the applicant and employer. NAFTrack Certified Hiring now has **14 national and 5 local employer partners** and continues to evolve. In 2016 NAF focused on:

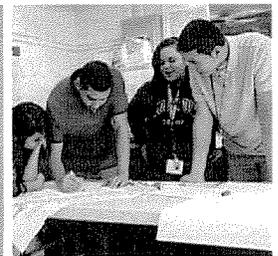
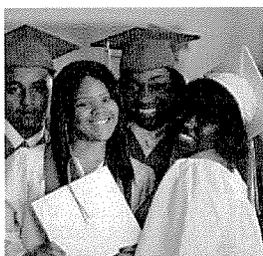
- **Piloting myNAFTrack**, the innovative online portal that enables students to create professional portfolios, network with employers and access internship and job listings
- **Growing the number of students enrolled in NAFTrack Certification**
- **Providing professional development** to academy staff, enabling them to maximize opportunities for their students

The initial myNAFTrack pilot concluded in June. Thirteen of the 14 national employer partners now have active profiles on the platform, and each posted 3-5 internship or job opportunities for the pilot phase.

Moving forward, NAF will amplify efforts to enroll students in myNAFTrack.

NAF held its first convening of human resources leads in June, offering the opportunity for companies including Apple, AT&T, JPMorgan Chase, KPMG, Verizon and Xerox to brainstorm strategies to increase corporate engagement, share best practices for providing internships and discuss ways to integrate their HR systems with myNAFTrack.

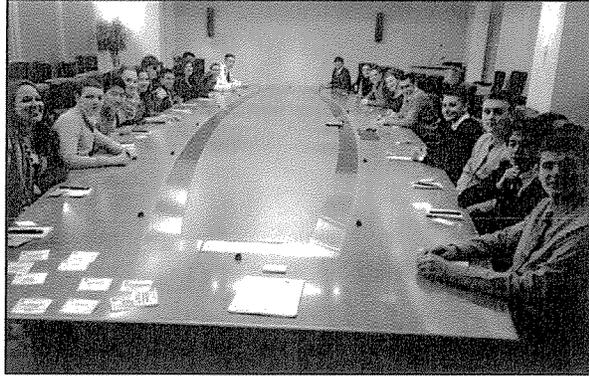
JPMORGAN CHASE & CO.



RBC/Tottenville High School Mentorship

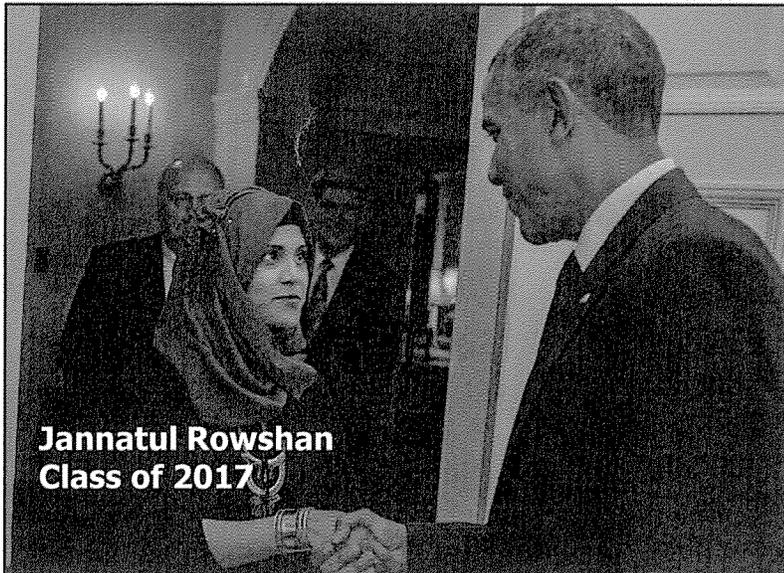
In 2015, Tottenville High School's Academy of Finance entered the second year of its highly successful mentorship program with RBC, coordinated by RBC's Janae Henderson. Each month, students heard from inspiring RBC speakers and attended workshops on:

- Introduction to college
- Resume writing
- Interview preparation
- Presentation & speech
- Business etiquette
- Financial literacy
- Developing soft skills
- Leadership & self-advocacy
- Teambuilding
- Healthy living & nutrition



Tottenville students gathered for an RBC mentoring session.

NAF Student Spotlight



Jannatul Rowshan
Class of 2017

Jannatul Rowshan's parents emigrated from Bangladesh in order to provide their children a better life—namely, the chance to attend college and pursue meaningful careers.

Determined to prepare herself for success, Jannatul enrolled in NAF at the High School of Economics and Finance in New York City. She wasn't sure what professional path she would choose, but knew NAF would offer incredible opportunities.

Having witnessed prejudice against Muslims and the difficulty women face in choosing whether to wear a hijab, she took action. In her NAF entrepreneurship course, Jannatul and a friend developed a business plan for URBANAIfa Hijabs—a company that creates custom hijabs, encouraging women to express their individuality while observing their religion. Jannatul and her partner were chosen from more than 20,000 students as finalists in NFTE's National Youth Entrepreneurship Challenge and traveled to the White House in November 2015 to share their story in celebration of National Entrepreneurship Month.

In Summer 2016 Jannatul joined NAF as a Marketing and Communications intern. She plans to study marketing in college and become a financial analyst and entrepreneur.

Internship Update

This summer, 250 NYC NAF students participated in paid internships! Internships are the culminating experience for NAF students following a series of work-based learning activities spanning their entire high school career. Over 100 companies provided internships, including:

- Acxiom
- Board of Standard of Appeals
- DCAS Fleet FDNY
- Fitch Ratings
- 34th Street Partnership
- KPMG
- NAF
- MTA/NYCT
- New York State Society of CPA's
- Verizon

A Look Ahead



Congratulations to new NAF academies! Six academies in New York celebrated their graduation from NAF's Year of Planning and opened their doors this month as NAF academies.

All-in Corporate Engagement: As NAF enlists a wide range of corporate partners we actively seek ways to connect them with the students of NYC. Therefore, in collaboration with NAF's industry partners and the CTE NYC DOE planning team we are able to provide keynote speakers, deliver relevant sessions and offer a three-part series supported by industry professionals.

NYC Coordinator's Meetings: These 90-minute sessions focus on CTE Program Quality with highlights and updates from NYC DOE CTE Program Quality Team. There are 4-6 sessions throughout the school year that are supplemented by webinars as needed.

NAF Webinars: These hands-on one hour webinars provide a variety of in depth knowledge to a larger group within the NAF network. Topics ranged from an orientation to the 50+ host employers of summer interns to introduction of new Agricultural curriculum.



BE FUTURE READY

NAF solves some of the biggest
challenges facing education and our economy



In the United States, job forecasts indicate that an increasing percentage of future employment opportunities will require candidates to have some post-secondary education.

Yet we live in a country where a staggering number of high school students drop out, particularly those from minority groups and low-income backgrounds.

At the same time, a significant portion of America's unemployment rate is due to the growing chasm between employee skills and open jobs. America cannot compete in a global marketplace with an undereducated population and underprepared workforce.

As US businesses struggle to find a diverse, well-educated, and future ready workforce, ***NAF has the solution.***

For over 30 years, NAF has been transforming the high school experience for students and teachers.

With the creation of the first academy, NAF defined college and career readiness. The NAF academy—a "school within a school"—marries rigorous academic requirements with career-themed courses and workplace experience.

Teachers collaborate across subjects to create relatable lessons for students, while galvanizing local business leaders who serve as advisory board members.

Business professionals partner with NAF on a national level, as well as join local NAF academy advisory boards and volunteer their expertise inside and outside of school, aware that their companies' success depends on the education and skills of the next generation of professionals. Participation with NAF offers an opportunity to team up with teachers and prepare students to be future ready.

Students access professional mentorship, build career networks, and gain exposure to the business environment. When students are able to apply their learning outside the classroom and interact regularly with business professionals, academic achievement and graduation rates soar.

Students who display risk factors for dropping out learn to trace a solid line from what they study in class to its application in the workplace. Their NAF academy experience ignites their passion for learning and paves the way for future success.

The vital connections students make—across academic subjects and in the professional world—serve them for a lifetime.

Whether you come to NAF as a student, parent, teacher, principal, district superintendent, business professional, or community member, you have the ability to strengthen our country's educational and economic future.



NAF builds lasting relationships with schools and employers

NAF builds lasting relationships with schools and employers to achieve maximum and sustainable impact. Rooted in the corporate world and in education, NAF understands the complexities of both communities and what they can offer each other.

NAF supports schools that engage with business partners who will directly enhance students' learning, both in and outside the classroom. The return on investment is unparalleled. NAF introduces business partners to a diverse talent pipeline of future leaders who are developing the technical, professional, and interpersonal skills these companies need in order to assure their own long-term success.



National Corporate Partnerships

NAF corporate partnerships create a direct line connecting future ready NAF graduates to Fortune 500 and 1000 companies who have committed to NAF as partners in NAFTrack Certified Hiring.

These partners acknowledge that job applicants who, as high school graduates, earned NAFTrack Certification stand a cut above other qualified candidates.

Over the years, these companies have been integral to NAF's growth, serving as collaborators, investors, internship hosts, mentors, scholarship providers, and close advisors to teachers and students at NAF academies nationwide.

They have both witnessed and contributed to NAF's ability to prepare college and career ready graduates by the tens of thousands.

Partnership with Schools and Districts

The NAF academy structure is research-based and aligned with national standards, yet is flexible by design, recognizing that every school, district, and state operates differently and every student has their own learning style. NAF works with educators to ensure that the educational design fits in with school, district, and state priorities, while still upholding NAF's highest standards of excellence and innovation.

Unlike high cost reforms that clash with the structures in place, the NAF educational design builds on existing systems to make them more functional, effective, and sustainable. NAF works closely with schools to set up NAF academies, drawing on the unique strengths that every school possesses and working with the particular challenges they face.

The NAF academy structure includes open enrollment to all students at the school. By joining a NAF academy, students choose a rigorous academic path that is aligned with preparation for employment in growing industries.

Within the NAF academy, a cohort of students progress throughout their four years of high school together, striving for excellence, and seeing the immediate gains and opportunities afforded by their individual and collective efforts.

Curriculum and Instruction

NAF academies infuse science, technology, engineering, and math (STEM) skills into curricula and learning so that our nation's future leaders can compete in the evolving global market. The NAF curricula is created and regularly updated by educators in partnership with industry experts to ensure that lessons have real-world application.

Courses center on real-world projects that enable students to apply lessons from other subject areas, acquire valuable workplace skills, and experience their education as a step toward long-term career options.

As members of NAF's vibrant national network of educators, academy teachers have access to unprecedented support, professional development, and connectivity to colleagues who share what works best.

Industry experts partner with NAF to develop criteria to ensure that students who graduate from a NAF academy and earn NAFTrack Certification possess a strong foundation of relatable skills and knowledge.

Local Advisory Boards

By serving on NAF academy advisory boards, business professionals exert a powerful impact on the future professional workforce. They nourish the talent and potential of our country's most vulnerable high school students and make the critical bridge to careers.

Advisory board members prepare students for opportunities they never knew existed and boost teachers' ability to do their most outstanding work for students. Businesses also expand their own networks and exposure in the community, and this can mean more for their companies' bottom lines.

NAF's continuum of work-based learning begins with career awareness activities, progresses to career exploration, and culminates with career preparation, which includes an internship.

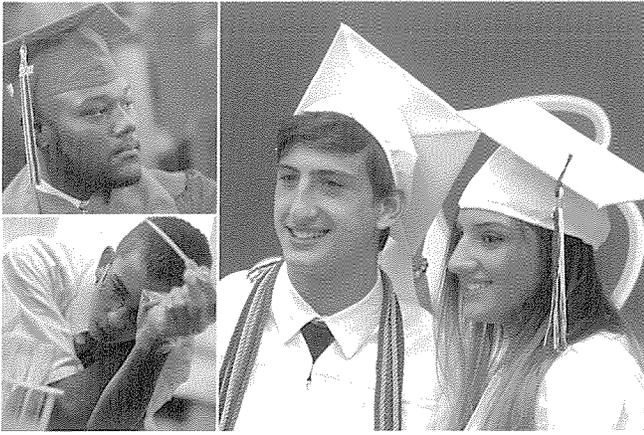
Advisory board members are an integral part of the work-based learning experience. They speak in classrooms, host job shadows, worksite tours, and conduct mock interviews, among other activities. Through regular interaction with NAF academy students, advisory board members are able to take an active role in shaping the student learning experience.

NAF graduates are college, career, and future ready

NAF graduates are different because their education is different. For employers, colleges, and universities, graduation from a NAF academy will help determine students' eligibility for college credit, scholarship opportunities, and candidacy for entry-level positions.

The return on investment in NAF academies for students, schools, local businesses, and corporate partners is significant, and all amount to a stronger future.





STUDENTS

Students who complete four years at a NAF are taking control of their education and career paths. The majority of NAF students are minorities living below or near the poverty line. Many will be the first in their family to attend and graduate from college. Their connections to mentors and professional networks allow them to discover their aptitudes and bring them to life in an industry that needs their specific talents and exceptional drive. Their education and increased earning potential can change their financial trajectories for generations.



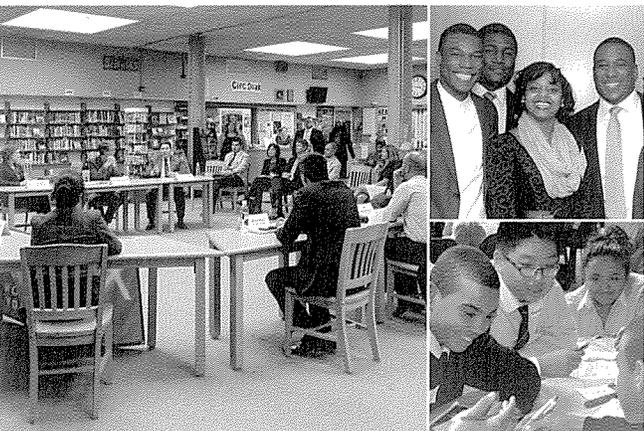
SCHOOLS

Schools and districts that use the NAF educational design are transforming and revitalizing high school education. Graduation rates and academic achievement increase, while teachers gain the satisfaction that comes from working at the top of their game and seeing their students' engagement increase with full support as their students embark on a path to success.



BUSINESS PROFESSIONALS

Business professionals who lead local and national initiatives, serve on advisory boards, and volunteer with NAF academies, are at the forefront of workforce development. Involvement with NAF offers a unique and well-structured opportunity to cultivate and recruit diverse talent who come to the workplace with a solid foundation in technical, professional, and interpersonal skills.



COMMUNITIES

Communities that support NAF academies are energized by the flow and exchange of ideas and interactions between businesses and schools. As young people are empowered to participate in society beyond their obligations as students and citizens, communities thrive with greater interest and economic participation from these emerging leaders.

What makes NAF exceptional is not any one piece of the puzzle, but the whole system. NAF aligns the goals of families, educators, and employers who want to have a defining, positive impact on young people's lives and assure success over the long term.

NAF graduates are ready to contribute to the nation's most pressing challenges. *Are you?*

In order for students to be college, career, and future ready, the workplace must also be the learning place. Schools must be supported so that they can provide quality educational experiences to students.

Join NAF in opening doors for students whose potential is boundless and vital to our country's future.



START

Start a NAF academy at your school or in your district. NAF is committed to innovation and excellence. As a member of the national network of NAF academy educators, you will find vast resources to inspire and motivate students, engage your community, and strengthen high schools.

PREPARE

Prepare the future workforce by volunteering with a local NAF academy or joining an advisory board. Enjoy the personal satisfaction that comes with knowing you made a difference in someone's life by serving as a mentor, interview coach, curriculum advisor, job shadow host, or internship provider. NAF alumni have pointed to their work-based learning experiences, particularly their internships, as formative in their lives.

PARTNER

Partner with NAF at the local or national level and watch how your ability to make big and lasting changes multiplies exponentially. Our corporate partners leverage the power of NAF's extensive network by making NAF a part of their corporate responsibility strategy, and further, they recognize that their contribution to and investment in NAF is an investment in the future of their companies. Champions at the top of several major US companies lead nationwide initiatives to support NAF academies and are also represented on local advisory boards at NAF academies across the country. They ensure impact at the individual level and in education systems statewide and throughout our nation.

JOIN

Join Fortune 500 and 1000 companies as a NAFTrack Certified Hiring partner. These companies give special consideration to NAFTrack certified graduates—each of whom has demonstrated that they are college, career, and future ready. NAFTrack Certification is hard-earned and lessons run deep for these NAF graduates. All have proven themselves to be outstanding candidates for any professional endeavor.

DONATE

Donate to NAF and support the innovations and programming that ensure NAF students have a high quality, transformative educational experience. Your financial support helps open doors for our future leaders to realize their full potential.

Since 1982, NAF has partnered with existing high schools in high-need communities to enhance school systems at a low cost by implementing NAF academies. NAF has grown from one Academy of Finance in New York City to hundreds of academies across the country focusing on growing industries.

Whether they come from education or business, those who have helped to build NAF, who have worked with and know our students, understand the wealth of perspective, talent, and experience that NAF graduates bring.

Their partnership with NAF is life changing. Yours can be too.

We can fill the skills gap and help end America's dropout crisis. And we won't stop until it's done.

Will you join us?

naf.org



Our Mission

NAF solves some of the biggest challenges facing education and the economy by bringing education, business, and community leaders together to transform the high school experience.

Our Vision

NAF envisions a world in which all young people have equal opportunity for successful futures.

NAF is a national network of education, business, and community leaders who work together to ensure high school students are college, career, and future ready.



**BE FUTURE
READY**

naf.c

FREE ADULT CAREER EDUCATION - A PATH TO EMPLOYMENT - GETTING PHASED OUT AT NYCDOE?

1) The State report card for many programs is based largely on students moving to the next NRS level. Students are given test preparation instead of what their goals are such as Certified Nurse Assistant, Computer Applications, and High School Equivalency. Current goals are top down and benefit administrators and programs that provide education. They do not benefit students seeking training, employment, and/or a High School Equivalency credential.

2) Many students test lower in math than in reading. They are given test preparation in math computation skills. This is not math that adds meaning to life. It is memorization of procedures more suited to a previous century of math instruction.

3) NY State is using a high school test called TASC (Test Assessing Secondary Education) that is beyond difficult compared to the GED that was in effect through the end of 2013. There is a more appropriate test from Educational Testing Service called HISET (High School Equivalency Test) that the New York State Education Department should put into use as soon as possible. Adult education in the State will benefit from switching to a more appropriate test. Look at the numbers: In 2013, the last year of the old GED, about 36,000 people in NYS received a high school equivalency diploma. In 2014, the first year of the TASC, about 12,000 people in NYS received a high school equivalency diploma. There was no improvement from 2014 to 2015. This drastic drop from about 36,000 to about 12,000 indicates that a different test must go into effect as soon as possible. Also note that without a massive curve in test scoring on the TASC, the number of students receiving a diploma would be far below the current number of about 12,000.

CHANGE FOR THE WORSE AT O.A.C.E.

While the battle cry of politicians across the country is about jobs and employment. NYC's Office of Adult and Continuing Education (O.A.C.E) is cutting successful training programs in one of the fastest growing fields in the 21st Century – healthcare. Where else in the world can you get a top notch training to become a Medical Billing and Coding Specialist or a Certified Nurse Assistant (CNA) for the cost of the text books and exam vouchers? What other city **USED TO** provide a free* Licensed Practical Nursing (PN) training program (*the cost for the 11 month LPN program is approximately \$2,500-\$3,000 -books, uniforms, assessment, state boards and graduation fees) to meet the growing needs of our health care system, as aging baby boomers fill nursing homes and hospitals. What other city provides free ESL, Basic Education and High School Equivalency classes on the scale of over 30,000 people a year? Why would any city with these successful programs that help get people off of public assistance, want to phase them out?

According to OACE officials, funding streams for OACE's Practical Nursing (PN) program have been cut by the NY State legislature and OACE can no longer afford to maintain the training program. Over the past 5 years approximately 600 people have been trained and 85-95% pass the state boards, find employment and go on to become Registered Nurses. These are great outcomes yet now there is no more funding?

The demand for the free CNA and LPN classes is **huge - hundreds** of inquiries come in each week - and in the past five years over 500 OACE students have been able to complete their CNA and sometimes their High School Equivalency simultaneously, going on to find living wage employment or enter the LPN program. Now, with new State requirements for class size and budgetary concerns, the Brooklyn CNA program has had to cancel classes twice in the last year, and has a waiting list of over 130 people hoping to get into the next cycle. The PCA program has hundreds of applicants waiting for interviews and the next step in their application process, and none of them are being called in. The city needs more nurses and aides, and the students are there, waiting and willing to work hard. Where is the disconnect?

Most of the funding for OACE's programs come from the federal government's Workforce Investment Act funneled through the state's Employment Preparation Education (EPE) funds, which are then paid to OACE based mainly on student contact hours. EPE dollars are also paid in accordance to post-test rate and rate of "educational gain" (measured only by a grade level increase in their weaker subject on the Test of Adult Basic Education (TABE) administered to each student several times a year – no credit for advancing a grade level in Reading if Reading was

your strength to begin with). This year the State legislature voted to limit EPE funding only to students who are “educationally disadvantaged”, scoring below 9th grade level on either the Reading or Math section of the TABE.

Students who have HS diplomas or equivalencies (required for the PCA and other CTE certification programs) are not eligible for EPE funding if they score too high on both subjects and are no longer admitted to the program, even if they are unemployed and/or on public assistance. The PCA program which requires higher scoring, gets absolutely no reimbursement from EPE even though the employment rate of its graduates is higher than those of other Vocational Education programs.

Staff at the BALC PCA program are extremely dismayed about the situation and have offered to work on raising outside funds to help keep the program going. However, these suggestions have been dismissed by administration. Other OACE classes have also been closed due to waning attendance – many of the adult students have complicated lives juggling various appointments and childcare responsibilities, and the attrition rate is high. Teachers are held accountable for their Average Daily Attendance and testing rate and “educational gain” benchmarks. Case Managers are supposed to help with these issues and many other duties but with caseloads of over 400 students, sometimes in multiple locations, they have their hands full.

HOW THE PROGRAM IS BEING DISMANTLED

The new Superintendent of OACE, Rose-Marie Mills, a former middle school administrator, has been charged with bringing the program back from a serious budget deficit. She has brought in her own staff, many of whom have similar backgrounds in early childhood or P-12 education and little or no experience working with adults. Her approach has been one of micro management, focused on data, test scores and disciplinary actions with no emphasis on community building or collaboration, previous hallmarks of this program. Staff and students alike have been disappointed by the change in tone and the culture of negativity that has replaced what used to be a joyful learning center with many school wide activities and cultural celebrations.

In addition to phasing out community events, partnerships and the PCA program, OACE seems to be trying another strategy to manage its funding deficits. Several of the senior staff as well as new untenured teachers have been given U ratings this year for the first time in their careers and in the history of the program. Three U ratings can lead to dismissal or disqualify a teacher from future salary increases. Since salaries make up a large part of the school budget it seems that there is a concerted effort to get rid of teachers as a way of saving money.

Beyond the injury these U ratings cause to good teachers, there is the insult that they are being handed out by our administrators who, it seems, do not have valid teaching certificates (have not passed the content portion of teacher licensing exams) according to NYSED records. Also, there is no rubric or criteria for evaluating a teacher's performance, and these evaluations and ratings are being handled in a completely arbitrary and unjust manner. Supervisors can and do judge one even minor aspect as weak and grade the whole lesson as "unsatisfactory". This is an outrage and a shame.

At BALC several teachers have resigned or retired and others are planning to leave soon. The sudden increase in U ratings seems to be based on some type of quota, like the tickets that Transit Police give out more liberally at the end of the month. Morale is at an all time low as teachers watch their colleagues humiliated, veteran teachers unjustly rated, and a program that they proudly championed up until this new administration took over, quietly go down.

A CALL FOR ACTION

Managing large scale public programs is not easy but NYC can take pride in its adult education program and what it has offered the city's low income adults, dislocated workers and largely immigrant population for so many years – a ticket out of poverty through education. These same adults that are losing out are the struggling single parents of the pre-schoolers that are benefiting from our new Pre-K initiative. Helping them can only fortify their children. The educators and nurses who dedicated their lives to build this program are being forced out to cut costs, but the costs to the city will be much greater in the loss of this valuable public service. Should we let this program die out due to poor management and lack of vision? Come on city leaders – time to step in and show the DOE how important adult education is to the heart and soul of NYC!

Date: 9/19/16
To: Daniel Dromm,
Educational Committee Chair
NYC City Council

From: Dr. Rupert Green, Author:
[Vocational Education/CTE in NYC](#)
[School Size](#)
[NYC Gifted Schools](#)
15-year Veteran NYC CTE/VE Educator

Congratulations for your effort to place some oversight on Career and Technical Education (CTE) in NYC. Your undertaking is long overdue, and it will help elevate CTE as a pedagogical practice that has tremendous potential to improve educational outcomes for many NYC students. However, there are also long known and hidden pathologies that you will need to address to aid your quest.

Potential and Pathologies

The pathology in NYC is that though CTE, nee vocational education, is a viable option for all students, it is mostly being used as a dumping ground for lower performing students, the physically challenged, and for students who end up in prisons. Based on state law, VE is not offered to students before 10th grade. This is based on old thinking, as Green (2012)-my research-found that virtual technology allows VE to be introduced from kindergarten. Perhaps the laws must be changed.

According to my research, 21st Century Vocational Education (VE) has the potential to improve education for all students, and it could be more effective if introduced at an early grade. However, the historical pedigree wherein VE was used as a dumping ground for Blacks and Latinos caused them to shun it. To inform your effort, the people of Singapore similarly shunned VE. However, their forward thinking political leaders, similar to you, interceded to the extent their VE is now the showpiece to the world, even prompting visits from delegations of NYC educators. In the United States, VE was renamed CTE to shun the negative image. However, based on its usage in NYC schools, the negative image may still be in the minds of NYC educators.

My belief was affirmed by my recent study comparing the performance scores of CTE/VE, academic, and the city's gifted and talented schools. CTE schools attained the lowest performing scores. You may need to commission a study to explore the disparity. I would gladly help with same.

Pathologies

The pathology in NYC is that though CTE, nee vocational education, is a viable option for all students, it is mostly being used as a dumping ground for lower performing students, the disabled, and for students who end up in prisons. It is not offered at earlier grades to prevent students from going to prisons. According to Green (2012), if students are hooked with VE at earlier grades, it prevents dropping out. Sixty-five percent (65%) of dropouts end up incarcerated (Green, 2012).

There is tremendous wastage where, for example, the DOE (District 79) spent over \$500,000 to start a CTE welding program at Boys and Girls High School, only to have the equipment scrapped or stolen, and the program killed. The action occurred because the custodians did not want it there, and because of problems the school construction authority had related to putting in the right voltages. Another issue you must examine.

In many schools, unlicensed teachers are being used to teach CTE programs, and principals of CTE schools have no CTE background or license. To become certified as a CTE teacher, one must have at least two years paid experience working in the trade area s/he wishes to teach. The discounting of CTE in NYC is further evidenced by the fact that in some CTE schools, administrators, for example, only have early childhood education teaching licenses. Such pathology is quite a contrast from academic schools, where even for an individual to become AP of the math or science department, s/he must respectively have a math or science teaching license. In a CTE school, a gym teacher could become the principal. Such action is a pathology that must be changed, as the chief of surgery must have surgical experience.

In NYS, CTE accords students the ability to gain credit from their experience as apprentices in Work-Based-Learning programs. However, credit is dependent on them having state certified work-based coordinators. In many instances in NYC, there are no certified coordinators, and the only apprenticeship students gain is from sitting in their classrooms with their teachers and shuffling paper. Thus, there is fraud, where students are given credits in a manner out of compliance with the state department of education requirements.

The federal government is being defrauded as are students. As shown below, VTEA funding is to supplement the school budget. However, some schools break the law by incorporating federal fund in their regular budget. Additionally, being that there are no CTE qualified administrator or individuals to submit the VTEA narrative, fraudulent submission is made to the federal government.

The overarching purpose of the Carl D. Perkins Career and Technical Education Improvement Act IV (VTEA Supplemental Funding) is to help support the school's ongoing efforts to strengthen career and technical education (CTE) programs. A high-quality CTE program integrates a rigorous academic curriculum with career and technical training to ensure that students have the knowledge and competencies they need to succeed in college and careers. These supplemental funds are to be used for program improvement; technology expansion; professional development; and relationship-building with business, industry and postsecondary institutions ([NYC DOE, 2016](#)).

District 79 and CTE/VE

District 79 is a NYC DOE alternative educational program that extensively uses CTE/VE. There are three types of alternative programs. According to Green (2012), Type I schools were innovative and widely accepted by students for their meaningful, challenging curricula taught by motivated teachers. Such programs offered students the choice to attend and were often like magnet schools. Type II schools were viewed as last chance schools, where students were "sentenced," (p. 19) with school expulsion being the next stage (Raywid, 1994). Type III schools were for remedial purposes and behavior

modification, where students were offered the needed help and then returned to their home schools (p. 65)

District 79 adheres to Types II & III; therefore, VE is seen as a program for troubled youth, especially those in prisons. There is a need for it to change its framework to Type 1 and to offer CTE/VE as gifted and talented program—similar to the gifted and talented academic schools. If that is not done, it will be difficult for NYC parents to shake the perception CTE/VE program is for dunces and problem youth. My dissertation offers useful information that could inform your endeavor.

Reference

Green, R. (2012). *Attitudes and perceptions of vocational education in New York City: Implications for the mayor's school reform initiative*. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (Order No. 3504865)

Testimony of the Children's Defense Fund – New York
Before the Committee on Education

“Oversight - Career and Technical Education (CTE) Programs”

New York City Council
September 21, 2016.

Joanna Callen
Tow Policy Advocacy Fellow
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The Children's Defense Fund's (CDF) Leave No Child Behind® mission is to ensure every child a healthy start, a head start, a fair start, a safe start and a moral start in life, and successful passage to adulthood with the help of caring families and communities. CDF-New York's unique approach to improving conditions for children combines research, public education, policy development, community organizing and statewide advocacy activities, making us an innovative leader for New York's children, particularly in the areas of health, education, early childhood and juvenile justice. Through CDF's Cradle to Prison Pipeline® Campaign – a national initiative to stop the funneling of thousands of children, especially poor children and children of color down life paths that often lead to arrest, conviction and incarceration – CDF-NY works to replace punitive school discipline and safety policies in New York City schools with social and emotional supports that encourage a positive school climate.

Thank you to Chair Dromm and to the members and staff of the City Council Committee on Education for the opportunity to testify before this oversight hearing examining the Department of Education's (DOE's) current Career and Technical Education (CTE) programs and policies. We understand that the academic life of a school and the capacity for meaningful, authentic instruction is strongly linked to the social and emotional climate of the school,¹ and that student perceptions of a positive school climate are associated with higher academic achievement.² When reviewing plans for and progress towards expanding and improving CTE programs we recommend that attention be paid to school climate and progressive approaches to classroom management. While CDF-NY supports the intent of Intro 1099, a CTE reporting bill, we ask that the Council incorporate available school discipline data into the demands of the bill to strengthen and create a more holistic annual report of CTE programming.

Overview

This school year marks year two of the City Council's Restorative Justice Initiative, a pilot program whereby 15 schools across the five boroughs are resourced with a full-time school-based restorative justice coordinator and positioned in a network of 25 schools all implementing whole-school restorative justice models. Of the 115 schools invited to apply to the Restorative Justice Initiative, based on criteria that they had disproportionately high rates of suspension when compared to their borough, 14 schools were dedicated CTE schools, and two of the currently participating 15 schools are CTE schools. The reality that two high schools dedicated to CTE are also now dedicated to restorative justice provides an opportunity to collect best practices and share knowledge across the 47 New York City high schools dedicated to CTE and the more than 25,000 students that attend CTE schools full-time.

As a result of the Council's successful passage of the amended Student Safety Act in October 2015, the NYPD posts a quarterly report containing data on handcuffing events, criminal summonses, arrests, and violation activity disaggregated by school building. In the first and second quarters of 2016, 17 and 24 dedicated CTE schools, respectively, were represented in the data. In the second quarter, the most recently published report, one CTE school in particular represented 11 of the 1010 reported incidents. We encourage the DOE and Council to support CTE schools in creating safe and supportive climates for learning that do not set students on a path of disengagement from school but instead utilize alternatives to suspensions, arrests, and summonses, and prevent and address safety concerns in a way that protects the health, well-being and potential of New York City's students.

¹ Smith, D., Fisher, D., and Frey, N. (2015). *Better than Carrots or Sticks: Restorative Practices for Positive Classroom Management*. Alexandria, VA: ASCD.

² Skiba, R.J. (2016). Conclusion: Moving Toward Equity in School Discipline. In R.J. Skiba et al. (eds.), *Inequality in School Discipline*. Bloomington, IN: The Equity Project, Indiana University.

Intro 1099-2016

We support the goals of Int.1099, the bill before the committee today that would require the DOE to annually report information related to CTE programs. While this data will be an important resource in efforts to expand access to CTE programs and strengthen CTE pathways, we ask that the Council take a step further to include reporting on school climate indicators. To intervene in existing discipline patterns and prevent harsh or disproportionate reliance on exclusionary disciplinary practices, schools and their stakeholders can track and disaggregate discipline data by offense type and student characteristics (e.g. student race/ethnicity, gender, disability status). Through the Student Safety Act, the DOE is already reporting on the number of teacher removals, the number of principal's suspensions, and the number of superintendent's suspensions all disaggregated by school building and race/ethnicity, gender, grade, year of birth, whether the individual is receiving special education services, and whether the individual is an English language learner. This available discipline data can help to gauge the quality of the school environment for students as well as educators in CTE schools, can help stakeholders to identify patterns of disciplinary exclusion and assess the kinds of alternative interventions and practices that are needed, and complements the mission of Int.1099.

Beyond whether or not a student has been suspended,³ we understand that factors like whether or not a student receives a summons or has been arrested are indicators of a student's likelihood of leaving school.⁴ However, because the Student Safety Act reporting on summonses, arrests, and violation activity is disaggregated by school building rather than school, the data available, though much needed and important, is incomplete. Going forward, we encourage the Council and the DOE to consider enhancing the established reporting requirements for law enforcement activity in schools to better enable stakeholders to study the impact of school safety practices and encourage investment in prevention and intervention strategies that work.

Principles of Career and Technical Education

Research on high school non-completion highlights a web of sociological, psychological, economic, and institutional factors that contribute to students leaving high school before they receive a diploma.⁵ CTE programs address some of the specific drivers that fuel student dropout, especially through fostering a feeling of connectedness to school.⁶ Much of the available research on CTE indicates that, by providing alternative pathways to engage students and offering strong teacher-student relationships and a relevant curriculum that students enjoy participating in⁷, CTE programs encourage high school attendance⁸ and completion⁹ in ways that are different from traditional academic high schools.

³ Carpenter, D.M., and Ramirez, A. (2007). More Than One Gap: Dropout Rate Gaps Between and Among Black, Hispanic, and White Students. *Journal of Advanced Academics*, 19:32-64.

⁴ Brownstein, R. (2010). Pushed out, *Education Digest*, Vol. 75, No. 7, pp. 23-27.

⁵ Fine, Michelle. 1991. *Framing Dropouts: Notes on the Politics of an Urban High School*. Albany: State University of New York Press. See also Orfield, Gary, ed. (2004). *Dropouts in America: Confronting the Graduation Rate Crisis*. Cambridge, MA: Harvard Education Publishing Group.

⁶ Kemple, J. & Snipes, J. (2000). *Career academies: Impacts on students' engagement and performance in high school*, New York, New York: Manpower Demonstration Research Corporation.

⁷ Symonds, W. C., Schwartz, R. B. & Ferguson, R. (2011). *Pathways to Prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Cambridge, MA: Harvard Graduate School of Education, Pathways to Prosperity Project.

⁸ Chadd, J., & Drage, K. (2006). No Child Left Behind: Implications for career and technical education. *Career and Technical Education Research*, 31(2), 79-99., Plank et al. 2008

⁹ Castellano, M., Sundell, K., Overman, L., & Aliaga, O. (2012). Do career and technical education programs of study improve student achievement? Preliminary analyses from a rigorous longitudinal study. *International Journal of Educational Reform*, (21)2, 98-118.

As the Committee report notes, students in CTE programs appear to outperform other students on several metrics including high school graduation rates and daily attendance.¹⁰ Further, a 2014 report by the Community Service Society found that New York City public high school students enrolled in CTE schools, which typically serve low-income students and students with below average 8th grade test scores, are much more likely to graduate than their peers in non-CTE schools.¹¹ Rates of graduation and daily attendance are advanced by school connection - the belief by students that adults in the school care about their learning as well as care about them as individuals.¹² Reform initiatives such as CTE enhance school connection through increased comprehension of job and industry, career planning, knowledge and skills related to particular types of work¹³, and through providing high interest technical learning that is relevant and purposeful.¹⁴

School Pushout and the Need for Investment in Restorative Practices

School pushout occurs when students are prevented or discouraged from continuing their education and results from numerous circumstances, including the absence of qualified and caring teachers,¹⁵ a lack of appropriate academic support,¹⁶ irrelevant curriculum,¹⁷ and the imposition of harsh disciplinary actions that limit educational opportunities and exclude or make students feel unwelcome¹⁸. Among many harsh disciplinary actions, suspension is often the first step in a chain of events leading to negative short- and long-term consequences, including academic disengagement, decreased academic achievement, and leaving school.¹⁹ Research has demonstrated that even a single suspension or summons increases the odds of low achievement and leaving school altogether.²⁰ Effective schools are characterized by strong teacher-student and teacher-parent relationships and low suspension rates,²¹ and absenteeism and dropout rates are lower in schools where students feel safe and perceive discipline to be fair and effective²².

Positive teacher-student and peer relationships as well as communal problem solving to prevent exclusion of students from the classroom make up the essence of restorative discipline. In addition to

¹⁰ The Council of the City of New York, Committee on Education. (2016). Committee Report and Briefing Paper of the Human Services Division. Retrieved from (<http://legistar.council.nyc.gov/LegislationDetail.aspx?ID=2824178&GUID=A03EB6F9-52E4-415A-982C-241B3070E66A&Options=&Search=> See also "Benefits of a CTE Program of Study: CTE Facts & Figures," Department of Education NYCCTE, Retrieved from <http://www.cte.nyc.gov/site/content/benefits-cte-program-study>.

¹¹ Treschan, L., and Mehrotra, A. (2014). Challenging Traditional Expectations: How New York City's CTE High Schools are Helping Students Graduate. New York, NY: Community Service Society.

¹² Blum, R. (2005). School Connectedness: Improving the Lives of Students. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health. Retrieved from <http://cecp.air.org/download/MCMonographFINAL.pdf>.

¹³ Plank, S., S. DeLuca, and A. Estacion. 2005. Dropping Out of High School and the Place of Career and Technical Education: A Survival Analysis of Surviving High School. St. Paul, MN: National Research Center for Career and Technical Education.

¹⁴ Aliaga, O., Kotamraju, P., Stone, J. R. (2012). A typology for understanding the career and technical education credit-taking experience of high school students. Louisville, KY: National Research Center for Career and Technical Education, University of Louisville.

¹⁵ Valenzuela, A. (1999). Subtractive schooling: U.S.–Mexican youth and the politics of caring. Albany: State University of New York Press.

¹⁶ Youth United for Change. (2011). Pushed Out: Youth Voices on the Dropout Crisis in Philadelphia. Philadelphia, PA: Author. Retrieved from <http://youthunitedforchange.org/wp-content/uploads/2013/09/pushed-out.pdf>.

¹⁷ Symonds, W. C., Schwartz, R. B. & Ferguson, R. (2011). Pathways to Prosperity: Meeting the challenge of preparing young Americans for the 21st century. Cambridge, MA: Harvard Graduate School of Education, Pathways to Prosperity Project.

¹⁸ Dignity in Schools Campaign. (2010). Fact Sheet on School Discipline and Pushout Problem. New York, NY: Author. Retrieved from <http://www.dignityinschools.org/sites/default/files/DSC%20National%20Pushout%20Fact%20Sheet%2012.10.pdf>.

¹⁹ Skiba, R.J., Arredondo, M.I., Gray, C., and Rausch, M.K. (2016). What Do We Know About Discipline Disparities? New and Emerging Research. In R.J. Skiba et al. (eds.), *Inequality in School Discipline*. Bloomington, IN: The Equity Project, Indiana University.

²⁰ Kirk, D.S., and Sampson, R.L. (2013). Juvenile arrest and collateral educational damage in the transition to adulthood. *Sociology of Education*, 86: 36-62.

²¹ Losen, D.J., and Haynes, L. (2016). Eliminating Excessive and Disparate School Discipline: A Review of Research and Policy Reform. In R.J. Skiba et al. (eds.), *Inequality in School Discipline*. Bloomington, IN: The Equity Project, Indiana University.

²² Gonzalez, T. (2015). Socializing schools: Addressing racial disparities in discipline through restorative justice. In D. J. Losen (Ed.), *Closing the school discipline gap: Research for policymakers*. New York: Teachers College Press.

supportive relationships, academic rigor, and responsive teaching, dedicated CTEs would do well to develop restorative school environments. Restorative justice as an approach to improving the learning environment and student behavior is based on three core principles: repairing harm, involving stakeholders, and transforming community relationships.²³ Restorative practices are predicated on the positive relationships that students and adults have with one another.²⁴ Research shows that students like school better, have more fun, and learn more when they have opportunities to engage in meaningful interactions.²⁵ Dedicated CTE schools may be able to reduce the exclusion of students through suspensions, summonses, and arrests by collaborating with school stakeholders to build a whole-school restorative support system, ensuring teachers have the needed resources and knowledge to support students, and helping teachers' enactment of responsive and engaging curricula that shows respect for all.²⁶

Conclusion

It is our hope that the Council continue dialogue with the DOE on the value of sustainable investment in restorative justice in schools and ending disparities in school pushout. We are grateful to the Council for funding the 2015-16 and 2016-17 Restorative Justice Initiative and for the continued commitment to matters of school climate. Thank you again for this opportunity to testify.

²³ Macready, T. (2009). Learning social responsibility in schools: A restorative practice. *Educational Psychology in Practice*, 25, 211-220.

²⁴ Smith, D., Fisher, D., and Frey, N. (2015). *Better than Carrots or Sticks: Restorative Practices for Positive Classroom Management*. Alexandria, VA: ASCD.

²⁵ City, E.A. (2014). Talking to learn. *Educational Leadership*, 72(3): 11-16.

²⁶ Wilson, M.G. (2013). Disrupting the Pipeline: The Role of School Leadership in Mitigating Exclusion and Criminalization of Students. *Journal of Special Education Leadership*, 26(2): 61-70.

**THE COUNCIL
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Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

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Name: Diann Jenkins

Address: 700 Lincoln Avenue

I represent: Committee of Concerned Educators

Address: _____

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Name: Chantella Mitchell

Address: 11 Park Place, 1602 NY 10007

I represent: JOBSFIRSTNYC

Address: _____

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Name: Ayisha Ifeanyi

Address: 405 Fourth St Brooklyn NY 11215

I represent: Manhattan Borough President ~~Office~~

Address: 405 Fourth St Brooklyn NY 11215

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Name: Moses Ojeda

Address: 52 Chambers NY, NY 10007

I represent: NYC DOE

Address: _____

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Name: John Widlund

Address: 52 Chambers NY, NY 10007

I represent: NYC DOE

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Name: Phil Weinberg

Address: 52 Chambers NY, NY 10007

I represent: NYC DOE

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Name: MICHAEL SIMAS

Address: _____

I represent: PARTNERSHIP FOR NEW YORK CITY

Address: 1 BATTERY PARK PLAZA NY, NY

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Name: JACK POWERS

Address: 405 FOURTH ST, BROOKLYN 11215

I represent: GRAPHICS INDUSTRY ADVISORY COMMISSION

Address: 405 FOURTH ST BROOKLYN NY 11215

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Date: 9/21/16

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Name: Julie Samvels

Address: _____

I represent: Tech: NYC

Address: _____

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Date: 9/21/18

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Name: Sterling Robeson

Address: VP of CTE

I represent: UFT

Address: 52 Broadway

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Appearance Card

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Date: _____

(PLEASE PRINT)

Name: Sam Streed

Address: 151 W 30th, NYC

I represent: Advocates for Children

Address: (same)

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(PLEASE PRINT)
Name: STANLEY S. LITOW

Address: 70 EAST 10th ST

I represent: IBM

Address: NEW ORCHARD ROAD. ARMONK NY

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Appearance Card

I intend to appear and speak on Int. No. 1099-2016 Res. No. _____
 in favor in opposition

Date: 9/21/16

(PLEASE PRINT)
Name: Tara Bellevue

Address: 218 West 40th St New York, NY

I represent: NAF

Address: SAA

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