

TESTIMONY

BY

COMMISSIONER

GREGG BISHOP

NEW YORK CITY

DEPARTMENT OF SMALL BUSINESS SERVICES

BEFORE

THE COMMITTEE ON CIVIL SERVICE AND LABOR

OF THE

NEW YORK CITY COUNCIL

WEDNESDAY, NOVEMBER 13th, 2019

Good morning **Chair Miller** and members of the Committee on Civil Service and Labor. My name is Gregg Bishop, and I am the Commissioner of the New York City Department of Small Businesses Services ("SBS"). At SBS, we aim to unlock economic potential and create economic security for all New Yorkers by connecting them to quality jobs, building stronger businesses, and fostering thriving neighborhoods across the five boroughs. I am joined by my colleague, Barbara Dannenberg from the Department of Citywide Administrative Services (DCAS).

Automation technologies are already impacting business operations and the value of workforce skill-sets. SBS's resources for small businesses and jobseekers are informed by industry demand and changing market conditions, including the current and future impact of automation. Annually, SBS provides free, high quality services to around 20,000 small businesses and more than 25,000 jobseekers.

SBS's workforce strategy aims to connect New Yorkers to quality jobs with real advancement opportunities. Through our network of **18 Workforce1 Career Centers**, SBS connects jobseekers with employment opportunities, industry-informed trainings, and a variety of candidate development services, such as resume development, interview preparation, and job search workshops. To inform this work and ensure that we are preparing New Yorkers to enter growing sectors of the economy, the administration launched **Industry Partnerships** (IPs) in sectors including food service, healthcare, technology, industrial and manufacturing, and construction.

These Industry Partnerships bring businesses, community groups, training providers, academic institutions, and government together to recruit, train, and connect unemployed and underemployed adults to quality jobs. Through their collaborative

model, the Industry Partnerships allow SBS to work closely with industry to understand and respond directly to their workforce needs. As automation is incorporated into business operations and impacts workforce opportunities, these Industry Partnerships allow SBS to hear directly from employers regarding industry trends and adjust training modules we offer based on this information. In sectors that are already being impacted by automation, SBS offers trainings to help New Yorkers develop the skills needed to seize emerging new opportunities.

The onset of automation is not projected to impede the continued growth of jobs in certain sectors of the economy, such as **healthcare and technology**. SBS is working with these industries to create pathways to opportunities that are accessible to New Yorkers with a wide range of experience levels to foster a diverse and equitably accessible future workforce.

SBS's healthcare IP, the **New York Alliance for Careers in Healthcare**, or NYACH, works with industry partners to identify pressing workforce needs and supports training initiatives that provide viable career opportunities for low-income and unemployed New Yorkers. NYACH is responding to relevant changing market forces by preparing jobseekers and the current workforce with the core competencies needed to excel in person-centered roles that are not expected to be displaced by automation. For example, NYACH supported the development of the **Certified Recovery Peer Advocate Training program** at Queensborough Community College. This program has trained over 110 students with lived experience with substance use and recovery to support others with similar diagnoses. Care-giving and human connection are fundamental to the performance of these peer specialist occupations, jobs which are

expected to continue to grow in the future. NYACH is also ensuring that the future healthcare workforce is prepared with the new technology skills and knowledge that will be needed to succeed in a more automated and technology-reliant healthcare system.

New York City's growing tech ecosystem is made up of more than 320,000 jobs across the five boroughs and SBS is working to ensure all New Yorkers can participate in this important sector of the economy. The City's tech Industry Partnership, **Tech Talent Pipeline**, or TTP, was launched in May 2014 to support the inclusive growth of the City's tech sector. TTP works with industry, public, educational, and community partners to align New York City's infrastructure with the ever-evolving needs of the tech ecosystem so that New Yorkers today, and in the future, can succeed in the growing tech economy. Opportunities provided by TTP include support for CUNY students to increase their access to jobs at leading tech companies and pre-training programs in web development to help those with no experience forge a path to employment in the tech sector.

Automation will continue to change the operations and workforce needs of growing sectors such as food service, construction, and industrial. Through our industry partnerships in these sectors, SBS is working closely with businesses and industry experts to meet current needs and strengthen pathways of communication between government, industry, and academia to prepare for future workforce demands.

Many industrial processes are already being automated through technological advancements. These advancements increase efficiency and safety in the industrial and manufacturing sectors and SBS is working closely with industry to ensure that these changes come with new career opportunities for New Yorkers. Through our industrial IP,

the **Manufacturing and Industrial Innovation Council**, or MaiiC, SBS is training New Yorkers to perform jobs producing, operating, maintaining, and repairing these new automated technologies.

Last year SBS launched **ApprenticeNYC**, a new employer-partnership program model that will provide New Yorkers with career opportunities in sectors including tech, healthcare, life sciences, and industrial and manufacturing. Three cohorts of ApprenticeNYC's first iteration have provided participants with the skills training required to become **computer numerically controlled (CNC) machinists**. CNC machinists operate advanced manufacturing technologies to produce parts for industrial companies ranging from furniture manufacturers to aerospace engineering firms. ApprenticeNYC provides participating New Yorkers with technical hands-on instruction, on-the-job training, and employment with participating employer partners. Furthermore, apprentices are paid during both the classroom learning and on-the-job training components of the program. ApprenticeNYC will soon be launching additional occupational apprenticeships in the transportation industry to connect New Yorkers with the new skills required to succeed as this industry advances.

As in the industrial sector, the landscape of brick and mortar businesses is continually evolving. SBS aims to help business owners deftly adapt to changing markets conditions. SBS recently expanded and updated our **business education courses** offered through our network of seven NYC Business Solutions Centers. Many of these courses help small business owners learn about how to utilize automation technologies, such as accounting software, customer relations management (CRM) systems, and email marketing, to enable their business to operate more efficiently. We

are also providing business owners with opportunities to implement these automation technologies, through our **Love Your Local, Business Preparedness and Resiliency Program (BPREP)**, and **Customized Training** grant programs. Through two rounds of the Love Your Local grant program, almost forty small businesses were awarded funding and consultations with business consultants to help them adapt to changing market conditions. This initiative will enable SBS to test and analyze creative business interventions, including automation technologies, with the aim of expanding effective solutions to other longstanding businesses across the five boroughs. All of SBS's services help business owners start, operate, and grow more effectively; we look forward to continuing to help small business owners learn about and utilize these new technologies so that they can continue to thrive in our city.

Like many dramatic shifts in our economy, automation is projected to have the strongest impact on low and middle-income jobs. Using the knowledge gained through our Industry Partnerships, SBS is committed to working with employers, local organizations, and training providers to create workforce and training opportunities with a variety of entry points to ensure that New Yorkers with different levels of experience can advance in our economy. We look forward to continuing to work with Council to empower New Yorkers to be resilient to future economic trends, including automation. Thank you and I would be happy to take your questions.



**Testimony by Jesse Laymon,
Director of Policy and Advocacy
NYC Employment and Training Coalition (NYCETC)
at the Civil Service & Labor Committee Hearing
November 13, 2019**

Good morning and thank you for giving members of the public and the economic and workforce development communities the chance to testify on the challenges and opportunities facing jobseekers in our city, and the ways in which new technology is intensifying these.

My name is Jesse Laymon, Director of Policy for the New York City Employment and Training Coalition (NYCETC). NYCETC supports the workforce development community to ensure that every New Yorker has access to the skills, training, and education needed to thrive in the local economy, and that every business is able to maintain a highly skilled workforce. With over 160 members, NYCETC works with community-based organizations, educational institutions and labor management organizations engaged in New York City workforce development, to improve policy, practices, and outcomes to achieve economic inclusion for the city's workers, job-seekers and employers.

Today NYCETC is here to offer some general observations about the threats and opportunities posed by increasing automation in the world of work, and how these link to the ongoing need to better prepare New Yorkers young and mature for skilled work. First, we want to commend our friends at the Center for an Urban Future for their research and advocacy in this arena, and to thank the City Council's Committee on Civil Service and Labor for taking the time to delve into the topic area.

What we hope to add to the discussion today is an emphasis on the fact that technological change in the workplace inevitably means disruption of the workforce, and that no disruption of the workforce ever falls upon all workers equally. Higher wage workers and those with higher levels of educational attainment and advanced skills will probably find that increasing automation happens around their jobs, but does not threaten their employment. Better digital tools, interactive technologies and AI will probably even make many jobs more comfortable and many workers more productive.

The same technological changes that enhance the productivity of some workers will, however, pose a serious threat to others. Lower wage workers are most at risk of having their jobs replaced by the current wave of automation. And workers with lower levels of educational attainment and especially technical aptitude will be at risk not only if their jobs are eliminated, but also in the more likely event that their jobs are changed and they do not have the skills necessary to do the work now expected of them. These workers are most likely to experience the effects of technological changes in the workplace as primarily negative.

This unequal experience of automation is a reason that New York City, with its desire to be the “Fairest Big City” in the world, needs to invest in training programs that focus on New Yorkers with lower levels of educational attainment.

This need was spelled out in some detail in Mayor de Blasio’s official blueprint for the City’s workforce system, the Career Pathways report, released almost 5 years ago. That plan promised to increase overall spending on quality job training programs in several areas, with a focus on the programs called “bridge programs” that are aimed at providing clients with literacy or numeracy or English-language shortfalls with the foundational skills they need to advance in their careers.

Unfortunately, the de Blasio Administration has not fulfilled the promise of their own blueprint. Most glaringly, they have vastly under-funded the crucial bridge programs aimed at this high-need population. As of this fiscal year, the Administration is only budgeting 1/3rd as much per year for these programs as it had promised five years ago: a shortfall of roughly \$40 million per year.

I should note that some of your colleagues in the City Council have been doing important work raising awareness of this unkept promise for New Yorkers seeking a better life, and I want to thank Councilmembers Carlina Rivera, Antonio Reynoso, Mark Treyger and Ritchie Torres for helping to push the Administration to spend more on bridge programs in the next year. Hopefully the Administration will heed their concerns and those of the broader community of advocates.

I know that you and your fellow City Council Members support the work of the workforce development community broadly, and of the Employment and Training Coalition, and I want to thank you for your continued commitment to working with us to maximize equity in our local economy and career opportunities for those traditionally disconnected from them.

Thank you for your time and consideration of these matters. We at the Employment and Training Coalition would be happy to answer any questions from the Council to the best of our ability, either today or via follow-up with your staff.



**New York City Council - Committee on Civil Service and Labor
Oversight - Examining Automation within the NYC Labor Force
November 13, 2019**

My name is Zachary Hecht, and I'm the Policy Director for Tech:NYC. Thank you for calling this hearing and for the opportunity to testify.

Tech:NYC is a nonprofit coalition with the mission of supporting the technology industry in New York through increased engagement between our more than 750 member companies, New York government, and the community at large. Tech:NYC works to foster a dynamic, diverse, and creative ecosystem, ensuring New York is the best place to start and grow a technology company, and that New Yorkers benefit from the resulting innovation.

A number of our member companies have been making advancements in the fields of artificial intelligence and robotics. These advancements will undoubtedly help increase efficiency and accuracy in a range of settings, leading to improved outcomes and reduced costs across industries—from healthcare to finance to retail—and for a range of stakeholders, including consumers.

However, the purpose of today's hearing is not to discuss the many benefits of automation, but to discuss how automation will affect our city's workforce. This is an extremely important conversation, and while studies demonstrate the New York City workforce is less vulnerable to automation than the rest of the country, there will still be a very real impact for a number of New York workers.

Recent studies do in fact demonstrate that only a small proportion of jobs in New York City are likely to be fully eliminated, while many are likely to be augmented, altered, or partially automated. In all cases, we must recognize that along with technological change comes new opportunities for workers and this will undoubtedly be the case with automation. In order to ensure workers—whose roles have changed or been eliminated—are able to take advantage of

these new opportunities, it will be vital to ensure technology training and education are accessible to more and more workers, of all backgrounds. It will also be important to make sure our city's students are receiving an education that prepares them for the modern workforce and positions them to take advantage of new technologies.

In considering how to best move forward, we must recognize that New York City is already undertaking steps to make sure our students and workforce can thrive in the 21st century. Public officials and private enterprises in New York have come together to create a city that's training its residents to succeed—from hugely important initiatives like CS4All and the CUNY, Cornell Tech WITNY program, to EDC efforts to support the development of workforce training programs for 21st century jobs. New York State also recently passed legislation creating a task force to study the impacts of artificial intelligence, including how AI impacts the workforce. All of these efforts make it clear that New York is committed to understanding the future of work and ensuring the workforce is prepared to stay competitive.

Yet, we can and should do more to equip New Yorkers with skills and position them for success. This includes expanding already existing programs, programmatically and geographically, as well as exploring new policies to encourage upskilling and continuing education. For instance, New York could establish Lifelong Learning and Training Accounts, which would be funded by workers, business, and government, and would help workers pay for training. Our state and city should also examine how to better leverage worker training tax credits and new forms of educational funding like income-share agreements.

Yes, new technologies can often be daunting and pose real challenges; yet, we must not let these challenges impede responsible innovation. In order to make sure all New Yorkers are benefiting from innovation and technological advances, it will incumbent upon government, business, and the public to work together to demystify and understand technology, to plan for the future, and to put forward real solutions. We look forward to being a part of these conversations.

On Fears of Automation's Impact on Labor

Combatting Displacement Regardless of Source

JFI is an applied research organization that is exploring guaranteed income policies, including universal basic income, to strengthen the social safety net, combat poverty, and ensure against economic displacement due to factors such as trade, globalization, and technological changes like automation and the development of artificial intelligence.

There is a view, prevalent among proponents of universal basic income, that this latter factor, technological change in the form of automation and artificial intelligence, represents a distinct threat to the wellbeing of working and middle class households; that we are close to undergoing an “automation apocalypse,” where most, if not all, jobs will be eliminated. In this view, a universal basic income becomes the necessary response to a massive restructuring of the economy and the end of work as a source of income for most households.

JFI does not subscribe to this dire forecast, which is not well-supported by the data. We instead view automation and artificial intelligence as the latest incarnation of ever-present technological change. As is always the case with technological change, we expect these developments to be disruptive. But we attach no special significance to their effects; nor do they require a special response: there are many perhaps more significant sources of disruption. Trade and globalization have also transformed the economy; deregulation and the decline in the power of unions have led to stagnant wages and precarious employment for many. In fact, in states that passed right-to-work legislation, wages are 3.2 percent lower, according to a study from the Economic Policy Institute in 2011. Moreover, the transformation of the social safety net into one more heavily conditioned on work has gated vital aid behind employment and left families at the mercy of economic cycles. Some of these economic transformations are “exogenous” and outside of our control, but many are the

direct result of the choices that lawmakers have made at the federal, state, and local level over the last several decades. For example, a growing number of economists argue that the weakening of antitrust legislation at the federal level has generated conditions of monopsony in low-wage sectors, which are responsible in part for driving down wages. So, while it is prudent to understand the effects that automation has had and may have, it is crucial that attention to automation does not distract from other potentially more consequential causes of precarity and poverty or from the actions that lawmakers can take to address them in the present.

Exposure to Automation \neq Job Loss Through Automation

It's now common to hear of reports that 20, 30, or even 50 percent of jobs could be lost to automation over the coming decades. When one digs a bit deeper into the sources of these figures, however, it is clear these reports are being misinterpreted. A large percentage of jobs face exposure to automation, but this does not imply that those jobs are at risk of elimination. It is just as possible that the nature of a job will change due to automation. That could mean either a decrease in wage--or an increase, if automation generates increased worker productivity in specific instances.

Technological advances have historically led to large changes in the nature of work: entire industries have vanished and surviving jobs have been transformed both in terms of their required skill sets and in their associated tasks. So, concern that automation may disrupt the lives of many is well-placed. But at the same time, technological change has led to the creation of new jobs and new industries. The "churning" generated by technological change has left overall employment levels relatively untouched even if it has negatively affected particular households and communities. Those who warn of the automation apocalypse, of course, argue that this time it is different. And anything is possible, but so far automation has not generated anything indicating that we are headed toward their feared scenario.

No Evidence That Automation Is Having The Effects That Doomsayers Predict

Though there is a great deal of attention currently being paid to automation, it has been with us for decades. And researchers have studied its effects so far. Scholars like MIT professors Daron Acemoglu and David Autor, have tracked automation from early 1990s through the present, and while it can be difficult to disentangle the effects of automation from those of concurrent changes like “globalization,” or from economic cycles, their findings are consistent: so far, there has been no net loss in jobs, and no net decrease in civilian workforce participation rate that can be attributed to automation.

One might argue that automation is just getting started and that eventually we will see net losses in jobs. Perhaps, but we do not see any early indicators that this is occurring. For example, if automation was, in fact, having a transformational impact on the economy it would be reflected in individual productivity data; productivity would be increasing rapidly as new machines and software allowed existing workers to generate more with less (thus reducing the need for workers). There is, however, no evidence that overall individual productivity has “spiked” in this manner. In fact, labor productivity has been historically weak over the past decade. The story is the same with other potential indicators: returns to education, corporate capital investment, etc. It is possible, of course, that there are flaws in data collection or in the methodologies used to assess the effects of automation. But, if so, the burden of proof is on those who dispute the data, and, so far, they have not made their case effectively.

Build a Robust Safety Net Now

It is good that the issue of automation has called attention to the fact that too many are at the mercy of economic forces beyond their control. But, as I have argued, automation is not a unique threat nor does it require a unique response. American households have already faced decades of stagnant wages, growing inequality, and increasing precarity. Rather than worry about an unlikely future in

which robots have taken all of our jobs, we should focus on our present, dismal state; it should be sufficient to motivate efforts to bolster our social safety net and guard against displacement and disruption regardless of source.

RECOMMENDED RESOURCES

JFI produces and is connected to leading research on welfare policy, and can be a resource for further briefings on this topic. Please reach out to stephen.nunez@jainfamilyinstitute.org with any requests. Below are some additional readings related to any known impacts of automation.

“The zombie robot argument lurches on,” from the Economic Policy Institute (EPI)

<https://www.epi.org/publication/the-zombie-robot-argument-lurches-on-there-is-no-evidence-that-automation-leads-to-joblessness-or-inequality/>

“Democrats, Avoid the Robot Rabbit Hole,” by Economist Paul Krugman

<https://www.nytimes.com/2019/10/17/opinion/democrats-automation.html>

“Don’t expect robots to take everyone’s job,” by Economic Commentator & Journalist Noah Smith, PhD

<https://www.bloomberg.com/opinion/articles/2018-11-01/don-t-expect-robots-to-take-everyone-s-job>

“Beyond Automation: The Law & Political Economy of Workplace Technological Change” By Legal Scholar Brishen Rogers

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3327608

“Automation and the Future of Work” By Historian Aaron Benanav

<https://static1.squarespace.com/static/59821b9ff14aa110e16b69c0/t/5d9de991367c9e460ec4a624/1570630034098/Aaron+Benanav%2C+Automation+and+the+Future+of+Work+1%2C+NLR+119%2C+September+October+2019.pdf>

JFI

The Jain Family Institute is an applied social science research institute.

Memo to Committee on Civil Service & Labor

November 13, 2019

Presented by Dr. Stephen Nuñez

Project Lead on Guaranteed Income Research

stephen.nunez@jainfamilyinstitute.org

JainFamilyInstitute.org

McGahey, Richard. "Universal Basic Income and the Welfare State," in The Welfare State Revisited. Juan Antonio Ocampo and Joseph Stiglitz, editors. Columbia University Press, 2018.

About JFI

Founded in 2015, JFI is a nonpartisan applied research organization that works on designing more equitable social and economic policy in theory and practice. JFI has three main initiatives: 1) guaranteed income; 2) higher education finance; and 3) digital ethics and governance.

For guaranteed income, our research focuses on microeconomic and macroeconomic effects; meta-analyses of cash transfer studies around the world; and, most extensively, on policy design and implementation. We partner with governments in the US and abroad to build and implement pilots and policies that will answer some of the most important remaining questions about direct cash transfers. We also work with research institutions and universities from around the world to develop best practices to improve collaboration and data-sharing.

We believe that guaranteed income is a promising income support option and aim to generate reliable evidence to support analysis of this and the broader suite of related policies. We've worked with partners such as SEED, ESP, the Russell Sage Foundation, and major U.S. cities.

**Automation and Labor Market Change:
Testimony for New York City Council**

November 13, 2019

Zachary Parolin
Columbia University
Center on Poverty & Social Policy
zachary.parolin@columbia.edu

Dear Council Members,

I appreciate this opportunity to share research findings related to automation and labor market change. By way of introduction, my name is Zach Parolin, and I am a researcher at the Center on Poverty & Social Policy at Columbia University. In recent years, I have published on topics related to automation, labor market change, and the role of organized labor in shaping the social consequences of technological change.

Over the next two minutes, I will emphasize a couple broad takeaways from recent research on automation and technological change. First, I would like to comment on the employment effects of technological change. Despite headline-grabbing reports that suggest that large shares of jobs are at risk of being automated in the future, no reliable research suggests that we are on the verge of mass technological unemployment. Technological innovation tends to create as many jobs as it destroys. The challenge, however, is that the jobs created tend to require different sets of skills than the jobs that are lost. Specifically, the well-paying jobs created as a result of technological change are more likely to require a college degree or equivalent training.

Even if we are not on the verge of high or rising levels of automation-induced unemployment, the consequences of labor market change are very real for the affected workers. The sales clerks and the machine operators who are laid off when their jobs are made redundant face real pain and real challenges. This is where the services and support that the city provide are particularly important.

Specifically, the evidence points to four core components in ensuring a smoother transition from the labor market of today to the one that awaits in the years ahead.

First: greater worker power. Research demonstrates that unionized workers in routine occupations tend to experience more favorable earnings growth, a lower likelihood of working poverty, and longer employment tenures relative to non-unionized workers. Worker power does not have to come through union membership. Instead, the labor market regulations that the City implements and enforces can likewise ensure workers maintain some voice, some power in the face of technological change.

Second: **income support programs.** Adequate income support for displaced workers is fundamental toward ensuring their wellbeing and ensuring a smoother transition to their next employment opportunity.

Third: **Job training, access to education, and workforce development programs** are of course important components in preparing workers for a changing labor market. Let me emphasize, however, that retraining alone is not an adequate solution to labor market change. It must go hand-in-hand with income support programs to ensure the basic livelihood of displaced workers while they prepare for their next job.

Finally: **regulations to ensure that lower-pay, service-sector jobs are still decent jobs.** Many of the workers who are displaced from routine jobs, or who might otherwise pursue a routine occupation, will end up in service-sector occupations instead. Service-sector jobs tend to pay less than the industrial jobs that are being displaced. The challenge in mitigating the effects of technological change, then, is to ensure that service-sector work is still decent work. The City's recent minimum wage increase is an important step in that direction, as are policies that focus on scheduling regulations and employment standards for workers in precarious, platform-based jobs.

To summarize: Automation and technological change have a real effect on the labor market, but that effect is not mass unemployment. Instead, the primary effect of technological change is the changing composition of the jobs in the labor market. If the City is to adequately serve its residents in the context of a changing labor market, then it should focus on the following four components: enhancing worker power; providing adequate income support for jobless adults; ensuring access to education and job training; and ensuring that lower-pay, service-sector jobs are still decent jobs.

Thank you for your time.

Testimony of Eli Dvorkin
Editorial & Policy Director, Center for an Urban Future
Before the NYC Council Committee on Civil Service & Labor

November 13, 2019

My name is Eli Dvorkin and I'm the editorial and policy director of the Center for an Urban Future. Thank you to the committee for the opportunity to testify today.

As you may know, CUF is a nonprofit, nonpartisan think tank focused on expanding economic opportunity, reducing inequality, and building stronger pathways to the middle class.

There is perhaps no issue more central to that mission in the years ahead—or in need of greater attention—than the impact of a more automated economy on New York City's workforce.

Over the past two years, my colleagues and I at the Center for an Urban Future have produced the first research to analyze the potential effects of automation here in New York City.

The good news is that the city is less vulnerable than much of the country. While about half of all job tasks nationwide could be automated, according to an analysis by the McKinsey Global Institute, our research finds that just 39 percent of job tasks performed in New York City could be automated in the coming decades.

This resiliency is due to a large number of jobs that require one of three human-centric qualities: a high level of interpersonal skills, a high level of creativity, and/or a high level of judgment. This includes the city's 147,000 home health aides, whose jobs are just 11 percent automatable; the 59,000 designers and marketers in the city's fast-growing advertising industry, whose jobs are just 13 percent automatable; and the 69,000 accountants and auditors, whose jobs are just 12 percent automatable.

But more than 456,000 jobs in the five boroughs are highly vulnerable to automation, and the pace of change will be particularly swift and destabilizing for many of the city's lower- and middle-income workers, including tens of thousands of bookkeepers, stock clerks, fast-food workers, and cashiers.

More than 85 percent of the tasks those workers do every day can be automated using technology that already exists—and the cost of deploying that technology is decreasing.

At a time when thousands of New Yorkers are still struggling to make ends meet, the most alarming potential impact of automation is on the city's most vulnerable workers. More than half of New York's most automatable occupations pay less than \$40,000 per year, and most of those jobs are currently accessible to workers without a postsecondary degree. Left unchecked, these trends could further widen New York's opportunity divide.

New York City can get ahead of these powerful economic forces by launching the nation's first Automation Preparation Plan.

This plan will require an unprecedented new commitment to helping those most at risk in an automating economy: New Yorkers already in the workforce. By vastly expanding options for New Yorkers to take advantage of skills-building opportunities across a lifetime, the city would help workers maintain their jobs as occupational requirements change or access new opportunities in fields that are poised to grow.

The City Council can start by helping to expand the city's upskilling infrastructure.

This begins with new investments in city-funded training options for incumbent workers. Although New York benefits from an array of good workforce training programs focused on preparing New Yorkers for jobs, there are few resources and options designed to help current workers navigate a changing occupation and industry. The Council should work with the Department of Small Business Services and NYCEDC to develop programs aimed at helping workers adjust to automation—and access skills-building programs across an entire career path.

It should also include a major new investment to scale up New York City's most effective tech training programs. New York is home to several organizations that have proven highly effective at moving New Yorkers with limited experience into tech-sector jobs. But these in-depth, career-oriented programs generally serve from a few dozen to a few hundred people per year. To better prepare for an automated economy, these programs will need new resources to grow.

The city should launch new efforts to make college credentials accessible and affordable for working New Yorkers. The Council should support CUNY's efforts to help more of the 830,000 New Yorkers with some college and no degree to return and graduate, including by expanding support for the non-tuition costs that prevent too many New Yorkers from returning to college or graduating in the first place. The city could also follow California's lead and create an all-online community college, in partnership with CUNY. Calbright is designed from inception to help working adults buttress their skills by earning short-term credentials and badges aligned with specific industry needs.

The second big step should be creating Lifelong Learning Accounts for New York City. Affording to earn a new credential or learn a new skill when you need it most — like right after losing employment — is a major barrier to up-skilling. Establishing city-sponsored lifetime training accounts would make those transitions easier by encouraging workers to save for future training.

Modeled on several successful pilot programs that have operated across the country since 2001, these portable accounts could be employer-matched, like retirement plans; allow workers to save pre-tax dollars; and travel with workers — including workers in the gig economy — from job to job. For low-income workers who lose a job due to automation, these accounts could also be seeded with public dollars in the form of a flexible skills-building grant.

We commend the City Council for taking seriously this growing challenge, and we urge New York City to lead the nation in preparing working people for a more automated economy.

**THE COUNCIL
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Name: Stephen Nunez

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I represent: Jein Family Institute

Address: 569 Broadway, NY, NY

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Name: ZACHARY PAROLIN

Address: 5-11 47th Ave, LIC, NY 11101

I represent: _____

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Name: Gregg Bishop

Address: Commissioner

I represent: NYC Small Business Services

Address: "SBS"

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

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

☒ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Josh Kellermann

Address: 370 7th Ave St 501

I represent: RWDSU

Address: _____

▶ Please complete this card and return to the Sergeant-at-Arms ◀

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

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

☐ in favor ☐ in opposition

Date: _____

(PLEASE PRINT)

Name: Zachary Hecht

Address: 349 5th Ave NY, NY 10016

I represent: Tech NYC

Address: _____

▶ Please complete this card and return to the Sergeant-at-Arms ◀