



Reimagine NY Commission

Work Working Group – Background Research

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I. Executive summary

The COVID-19 crisis has profoundly impacted New York State's economy, with the workforce experiencing extreme shocks as the monthly unemployment rates bounced from the lowest in decades to highs not seen since the Great Depression.ⁱ Personal consumption expenditures have shifted accordingly, declining by 36 percent from the first quarter to the second quarter of 2020, the most recent period for which data is available.ⁱⁱ

In this time of unprecedented change and uncertainty, Governor Cuomo charged the Reimagine New York Commission with addressing the future of work and employment in the digital economy. Keeping in mind both the gravity of the current financial outlook and the opportunities for progress, the Commission has focused on segments of New York State's workforce that are particularly vulnerable to the economic consequences of the COVID-19 crisis—as well as the potential of technology and innovation to catalyze the state's recovery.

Given the broad nature of this topic, the Commission has narrowed its focus to three key areas:

- **Small businesses**, which have been particularly hard hit by the crisis and represent a disproportionate share of vulnerable jobs across the economy.ⁱⁱⁱ
- **Arts and culture**, an area which has also experienced outsized impacts from the COVID-19 crisis, as social distancing requirements have made live performance and in-person arts experiences nearly impossible. In addition, cultural workers tend to be especially vulnerable to economic downturns.
- **Workforce development**, which is critical at a time when the crisis is accelerating the transition from analog to digital processes, exposing workers without digital skills to greater risk than before.

In order to inform the Commission's work, this memo provides background information on key areas for reimagining the future of work, as well as the impact of the COVID-19 crisis on these sectors. It looks at the role of government support in these areas, and the key challenges to help New Yorkers receive the best training and skills to obtain quality jobs. Finally, Appendix 1 recaps the Commission's work to date.

II. Key areas for reimagining work

The Commission began its work by developing a shared understanding of the existing state of play in New York State across each of its focus areas, with emphasis on the key challenges that New Yorkers face as a result of the COVID-19 crisis. This document discusses each focus area, providing background on each and discussing the role of New York State government, and then provides an overview of the most significant challenges facing New Yorkers.

A. Small businesses

Small business landscape in New York State

Ninety-eight percent of New York State businesses have fewer than 100 employees, collectively employing 54 percent of the state's workforce.^{iv} These numbers have grown over time: The number of small firms increased by 3 percent from 2014 to 2018, and the average small firm employment rose by nearly 5 percent.^v

Critically, job growth is driven primarily by small businesses at their births—a segment that accounts for only 3 percent of employment, but almost 20 percent of gross job creation.^{vi} New York State's recent efforts to support small businesses include a statewide network of Entrepreneurship Assistance Centers and Small Business Development Centers, the Business Mentor NY program, and specialized financing opportunities for early-stage NYS businesses.

Impact of the COVID-19 crisis and key challenges as identified by stakeholders

As a result of the COVID-19 crisis, a majority of small businesses face financial challenges and funding gaps that leave them more vulnerable.^{vii} Such challenges are acute for the smallest of businesses, which tend to operate without a sufficient financial cushion.^{viii}

While data on the impact of COVID-19 on small businesses is limited given the rapidly evolving financial landscape, small business owners indicate that the hardship has been severe. In New York City alone, as many as 520,000 jobs were lost from the small business sector in just the first several months of the COVID-19 crisis.^{ix} Federal assistance has softened the blow, but not on a scale proportional to the harm suffered by New York businesses compared to the rest of the country. For example, from the start of the pandemic through June 12, small businesses in New York received \$38 billion in Paycheck Protection Program (PPP) loans, accounting for seven percent of the national distribution. Although this payout was roughly proportional to New York State's eight percent share of national small businesses, the pandemic has hit New York harder: 52 percent of New York-based respondents said that the COVID-19 crisis had had a "large negative effect" on their business, versus 38 percent for the rest of the country.^x

In listening sessions held by the Commission, small business owners identified a range of challenges either caused or magnified by the COVID-19 crisis, including:

- **Financial hardship:** Closing non-essential businesses forced many employers to furlough or lay off workers. In addition, many small business owners expressed frustrations with the constraints of the PPP program (particularly early in the pandemic)^{xi} and have continued to face difficulties having their loan-forgiveness applications processed.^{xii}
- **Reopening challenges:** Small businesses must adjust their operations in order to implement reopening guidelines and ensure workplace safety. Some (but not all) businesses have also had trouble sourcing personal protective equipment (PPE) or have found the added costs of providing PPE to employees to be prohibitive. Stakeholders also noted employee concerns about the safety of public transit.
- **Lack of awareness of government resources:** Small business owners may be unaware of the full range of State and federal resources, or find the process of locating resources to be confusing.
- **Adapting to digitization:** The transition toward a digital economy is impacting small businesses in two major ways. First, improvements to broadband access are necessary to meet increased bandwidth requirements among small businesses and residents working from home. Second, the drastic decline in brick-and-mortar retail means that many small businesses need to develop e-commerce revenue streams but struggle with how to enable customers—old and new—to reach their online storefronts.

B. Arts and culture

The role of the arts in New York State

The arts and culture industry—including employment in diverse creative fields such as film and television, museums, performing arts, design, publishing, and fashion—accounts for almost half a million jobs in New York State, generating \$120 billion in gross state product (GSP) annually.^{xiii} This output represents roughly 7.8 percent of New York's GSP, compared to 4.3 percent nationally.^{xiv}

New York State's arts and culture sector ranks second among all states in terms of value added to the state economy.^{xv} Visits to cultural sites and cultural experiences are also a significant driver of tourism to the state, attracting millions of visitors every year. For example, 64 percent of Broadway audiences come from outside the tristate area of New York, New Jersey, and Connecticut—and 19 percent of audiences are international.^{xvi}

In New York City, the economic impact of the arts is pronounced. One out of every eight dollars of economic activity in the city—\$110 billion in 2017—can be traced directly or indirectly to the arts and culture industry.^{xvii} Of the half a million arts and culture jobs statewide, 293,000 of them are concentrated in New York City, accounting for \$30.4 billion in wages annually.^{xviii}

Beyond New York City, the impact of the arts and culture stretches across New York State, where there are more than 50,000 arts-related businesses.^{xix} For example, the Mid-Hudson region alone has over 500 arts organizations, generating \$470 million in total economic impact in 2014, and accounting for nearly 5,000 jobs. Cultural tourists spend over \$40 million on lodging, \$160 million on food and beverages, \$134 million on retail, and \$119 million on transportation in the region annually.^{xx} In Western New York, non-profit arts and culture groups generated \$156 million in economic activity in 2015, with an audience exceeding 6.6 million people. An additional \$196 million in indirect spending yielded a total economic impact of \$352 million for the region, generating more than 10,000 full-time jobs.^{xxi}

Government support for the arts

Given the outsized role that arts and culture play in contributing to New York State’s vibrant quality of life, the New York State Council of the Arts (NYSCA)—New York’s primary government agency dedicated to investing funds in non-profit arts and culture activities—received \$41 million in the last State budget to provide roughly 2,500 arts organizations with State grants. Still, in addition to NYSCA’s grantees, there are many other arts-related businesses in the state. Even for the organizations NYSCA is able to reach, NYSCA’s grants average \$20,000 and are often unable to fully cover the operational needs of grantees, especially given the additional strains that the COVID-19 crisis has caused.

Empire State Development (ESD), the State’s primary economic development agency, also supports a number of arts industry initiatives. In addition, many of the Regional Economic Development Councils (REDCs) prioritize arts and cultural production in their annual economic development plans and funding recommendations.

Impact of the COVID-19 crisis and key challenges as identified by stakeholders

While arts organizations and workers have always faced economic challenges, their financial hardships have become acute as a result of the COVID-19 crisis. In-person arts venues are particularly at risk, and lost revenues have resulted in permanent shutdowns of some arts businesses. Artists and leaders of cultural institutions cite the following COVID-19-related difficulties:

- **Financial instability for cultural institutions:** Non-profit organizations and smaller performing arts and music spaces face significant obstacles to recovering from the loss of an entire season, and as a result are unable to make payroll or rent.^{xxii} Those that have filed claims for business interruption insurance have had varied success.^{xxiii}
- **Financial instability for artists and cultural workers:** Artists are 3.5 times more likely than the United States workforce as a whole to be self-employed, and many artists and cultural workers earn gig- or performance-based wages. Earning a stable living as an artist can be difficult; half of artists whose primary income is from their art earn less than \$43,000 annually.^{xxiv} The nature of arts employment as “gig” work has also rendered many workers ineligible for COVID-related relief funds.^{xxv}
- **Challenges with reopening arts and cultural spaces:** Many arts and cultural institutions, including all of Broadway, have not yet been able to open given public health risks. For those institutions that have been able to reopen, attempting to navigate the various sets of state and local resources and guidance has proven challenging.
- **Transitioning to new revenue models, including digital mediums:** The arts community has demonstrated

remarkable resilience and creativity during COVID-19, offering innovative virtual performances and livestreams to deliver content to audiences while in-person venues remain closed. Although digital innovation will be crucial for many arts and culture organizations to stay afloat during a prolonged recovery period, the transition to and continued maintenance of digital media requires investments in technology and talent, as well as an overhaul of the performing arts revenue model. Many smaller performing arts venues are unable to undertake digitization efforts without external sources of support.

- **Lack of flexible space for socially-distant gatherings:** While arts organizations try to develop new revenue streams, arts venues are struggling to adapt their spaces to accommodate physical distancing protocols. For example, a Broadway theater operating at 25 percent capacity to comply with social distancing guidelines would face financial challenges.

C. Workforce development

Helping New York State workers find and retain jobs

In recent years, New York State has been a leader in workforce development, helping to ensure that its labor force has the resources and opportunities necessary to find and retain good jobs. According to one commonly used definition, the term “workforce development” denotes “policies and programs employed by geographies to create, sustain and retain a viable workforce that can support current and future business and industry.”^{xxvi} A key goal of workforce development is to ensure that the skills possessed by the labor force match those demanded by employers. A variety of actors are involved in helping workers to develop requisite skills needed for employment, including higher education institutions, vocational schools, workforce training providers, and employers. The workforce is best served when those involved in bolstering worker skills—such as training providers—coordinate closely with the employers creating labor demand.

In recent years, New York State has placed a strong emphasis on workforce development, increasing higher education funding to record levels, and making public colleges tuition-free for middle-class and low-income New York families. It also launched a \$175 million Workforce Development Initiative and established the first New York Office of Workforce Development to ensure that outcomes-focused, industry-driven training programs are available to all New Yorkers.^{xxvii}

The COVID-19 crisis necessitates even more action to help New Yorkers obtain quality jobs. While a four-year degree is not required in order to participate in the workforce, many of those without that credential or similar post-high school training have faced difficult economic circumstances over recent decades, including an average 13 percent wage decline over the past generation.^{xxviii} Workers without four-year degrees are also competing in a job market that increasingly requires bachelor’s degrees,^{xxix} a trend that is often exacerbated during periods with high unemployment as large numbers of candidates compete for jobs.^{xxx} As such, enabling more New Yorkers to obtain a college degree or high-quality post-secondary job training is critical.

Regardless of credentials, one of the key goals of New York State’s workforce development efforts is to ensure that New Yorkers possess the skills employers demand. Dozens of workforce training programs around New York State collaborate with both employers and job seekers to match supply with demand, by understanding and projecting employer and industry needs, and then providing training to job seekers. Despite the efforts of these programs, not enough New Yorkers possess the skills that employers require. For example, middle skill jobs—jobs that do not require college degrees but that do require education and training beyond high school—represent 49 percent of jobs in New York State, but only 37 percent of New Yorkers are trained at this skill level.^{xxxi} In addition, over 80 percent of employers hiring clean energy workers in 2018-19 had difficulty hiring, as job applicants lacked “experience, training, or technical skills as well as industry-specific knowledge.”^{xxxii}

Further building the skills of New York’s labor force will be critical to ensuring that New Yorkers are hired into

high-quality jobs when the COVID-19 crisis abates and into the future.

On the demand side of the labor market, encouraging the creation of high-quality, high-wage jobs has been a perennial challenge in the field of workforce development. Mirroring national trends, job growth in New York State pre-crisis was concentrated in lower-wage sectors and occupations, such as hospitality and healthcare. In New York City, above-average-wage sectors (e.g., banking, professional and scientific services, and insurance carriers) accounted for only 23 percent of new jobs created between 2009 and 2018, versus 36 percent during the 2003–2008 economic expansion.^{xxxiii}

The financial strain on workers in low-wage jobs has only intensified during the COVID-19 crisis. Many of the low-wage jobs in New York State are concentrated in service sectors that have been particularly vulnerable to termination and are high risk for viral exposure. Adults without a college degree comprise nearly 60 percent of those New Yorkers laid off during COVID-19 and 56 percent of the essential workers in New York State.^{xxxiv} Looking ahead, lower-wage sectors are expected to recover more slowly from the impacts of COVID-19.

Impact of the COVID-19 crisis and key challenges as identified by stakeholders

The Commission spoke with a variety of participants in the workforce development arena, including training providers, graduates of training programs, employers, and New York State officials. Some key challenges identified by these stakeholders include:

- **Inadequate access to affordable childcare and wraparound services:** Lack of affordable childcare, transportation, and healthcare has always been a barrier for those seeking to participate in the workforce and engage in workforce training. However, the closures of schools and childcare centers as a result of the COVID-19 crisis has exacerbated those challenges, especially for essential workers who do not have the option to work from home.
- **Non-transparent, uneven outcomes:** The quality of training offered—and the employment outcomes that training participants achieve—varies significantly from provider to provider. While some private training providers are consistently able to help their participants move into high-quality jobs in growing sectors, other private training providers have mixed track records. Unfortunately, individual New Yorkers often have a difficult time evaluating provider quality. And because provider quality often remains opaque to prospective training participants, the decision to enroll in a new training program can be overly confusing and allow poor quality programs to too easily attract participants.
- **Limited reach of existing programs:** Achieving scale is difficult for private training providers due to a variety of factors, including funding and staffing. In addition, finding employer partners to hire, mentor, and interview candidates in order to increase scale is a persistent challenge. Even the largest private training providers focused on the technology sector in New York City serve only several hundred participants annually.^{xxxv}
- **Mismatch between labor market supply and demand:** Both in terms of skills and credentials, the supply of workers and demand for labor are not perfectly aligned—an issue that is only expected to become more pronounced as a result of the digital transformation that the COVID-19 crisis has accelerated. Even before the COVID-19 crisis, 82 percent of middle skill jobs were “digitally intensive”—a portion that was growing over time.^{xxxvi} While the impacts of the COVID-19 crisis on the labor market are still being assessed, early data suggested that two years of digital transformation occurred during just the first two months of the crisis.^{xxxvii} Crucially, in this environment of rapid digital change nearly one-third of the United States workforce possesses limited or no digital skills.^{xxxviii} Therefore it is unsurprising that, as the National Skills Coalition has noted, “[t]he Covid-19 pandemic has significantly magnified the degree to which workers who have not yet passed [the] first digital competency threshold can face negative ripple effects.”^{xxxix} Workers who do not possess digital skills are expected to have an increasingly challenging experience in the workforce as the need for digital skills continues to grow in the years to come.

Furthermore, the majority of New Yorkers do not possess college degrees. At the same time, over 60 percent of jobs in the United States require at least some postsecondary education.^{xl} The “degree inflation” that typically occurs during recessions may result in even more jobs requiring degrees in the near term. Taken together, these trends in labor market demand for skills and credentials mean that a large share of the New York workforce may be ineligible for the majority of new jobs.

- **Awareness and access to training:** Even when effective job training opportunities exist, prospective trainees sometimes struggle to find, apply for, and enter the training process. For others, a lack of basic skills—such as English language proficiency, math, and digital literacy—is a barrier to accessing training pathways.

III. Conclusion

The economic fallout of the COVID-19 crisis has created unprecedented hardships across New York State’s economy. Both small businesses and arts and cultural organizations have been particularly hard hit, and are struggling to survive while also adapting to the demands of the evolving digital economy. In a similar way, low-wage workers and those without sufficient digital skills have faced financial strain and difficulties finding opportunities in the labor market.

Yet the disruption caused by the COVID-19 crisis also creates opportunities to rebuild a more equitable and resilient economy. New York State can play a vital role in guiding and supporting a new generation of post-crisis businesses. And it can ensure that all workers receive the training they need to advance their careers or find new jobs. In pursuit of these goals, the Commission is committed to finding and implementing solutions that serve New York State workers, paving the way toward a thriving and resilient New York State economy.

Appendix 1. The Reimagine New York Commission's work to-date

In the course of its work on economic recovery and the workforce, the Commission has sought to reach groups hard-hit by the COVID-19 crisis through a series of roundtables, panels, and expert consultations. For example, the Commission hosted small business roundtables with diverse representation across New York State, attended by entrepreneurs and owners representing a range of industries, including food services, manufacturing, retail, construction, education, healthcare, hospitality, agriculture, finance, real estate, transportation, and energy. The Commission also sought to reach demographically diverse business owners, hailing from across the state and from both urban and rural communities.

In order to develop a better understanding of the challenges facing New York State's workforce, the Commission also sought input from graduates of training programs and community workforce leaders. In order to better understand the gravity of the crisis for artists and cultural institutions, the Commission spoke directly to cultural leaders and arts workers, including musicians, performing artists, writers, museum directors, producers, and others. Finally, the Commission also spoke to a range of training providers, employers, think tanks, researchers, employment coalitions, and other groups.

References

- ⁱ Rodriguez Valladares, V. (Apr. 26, 2020). New York State Unemployment Rate Is at Highest Level Since the Great Depression. Forbes. <https://www.forbes.com/sites/mayrrodriguezvalladares/2020/04/26/new-york-state-unemployment-rate-is-at-highest-level-since-the-great-depression/#6f45cf7076f2>
- Unemployment skyrocketed from a historic low of 3.7 percent in February 2020 to 15.9 percent in July, before then reaching 9.7 percent in September. New York State Department of Labor (Nov. 12, 2020). Labor Force and Unemployment Data. <https://labor.ny.gov/stats/lslaus.shtm>
- ⁱⁱ U.S. Bureau of Economic Analysis. (Oct. 8, 2020). Personal Consumption Expenditures by State. <https://www.bea.gov/system/files/qgdpstate1020.png>
- ⁱⁱⁱ Dua, Jane, Mahajan, and Velasco. (May 5, 2020). COVID-19's Effect on Jobs at Small Businesses in the United States. McKinsey & Company. <https://www.mckinsey.com/industries/social-sector/our-insights/covid-19s-effect-on-jobs-at-small-businesses-in-the-united-states>
- ^{iv} Empire State Development. (2019). 2019 Annual Report on the State of Small Businesses. https://esd.ny.gov/sites/default/files/2019_ESD_ANNUAL_REPORT_ON_SMALL_BUSINESS.pdf
- ^v Empire State Development. (2019). 2019 Annual Report on the State of Small Businesses. https://esd.ny.gov/sites/default/files/2019_ESD_ANNUAL_REPORT_ON_SMALL_BUSINESS.pdf
- ^{vi} Haltiwanger, Jarmin, and Miranda. (May 2013). Who Creates Jobs? Small Versus Large Versus Young The Review of Economics and Statistics. http://econweb.umd.edu/~haltiwan/Who_Creates_Jobs_ReStat_2013.pdf
- ^{vii} The median business with more than \$10,000 in monthly expenses had only about 2 weeks of cash on hand at the time of the survey. Bartik, Bertrand, Cullen, Glaeser, Luca, and Stanton. (July 28, 2020). The Impact of COVID-19 on Small Business Outcomes and Expectations. Proceedings of the National Academy of Sciences of the United States of America. <https://www.pnas.org/content/early/2020/07/09/2006991117>
- ^{viii} In 2019, 13 percent of small businesses were considered to be high credit risk, 47 percent faced financial challenges, and 52 percent sought financing that year. Empire State Development. (2019). 2019 Annual Report on the State of Small Businesses. https://esd.ny.gov/sites/default/files/2019_ESD_ANNUAL_REPORT_ON_SMALL_BUSINESS.pdf
- ^{ix} Partnership for New York City. (July 2020). A call for Action and Collaboration. <https://pnyc.org/wp-content/uploads/2020/07/actionandcollaboration.pdf>
- ^x Ibid.
- ^{xi} Rappeport and Flitter. (May 6, 2020). Small Businesses Counting on Loan Forgiveness Could Be Stuck With Debt. Washington: The New York Times. <https://www.nytimes.com/2020/05/06/business/small-businesses-loans-ppp-coronavirus.html>
- ^{xii} Hayashi, Y. (October 1, 2020). U.S. to Start Forgiving PPP Loans After Borrowers Complained. Washington: The Wall Street Journal. <https://www.wsj.com/articles/u-s-to-start-forgiving-ppp-loans-after-borrowers-complained-11601414687>
- ^{xiii} Americans for the Arts Action Fund. (November 2019). Why the Arts Matter in New York. <https://www.artsactionfund.org/sites/artsactionfund.org/files/Why%20the%20Arts%20Matter%20in%20New%20York.pdf>
- ^{xiv} Ibid.
- ^{xv} New York State Council on the Arts. (April 20, 2020). The Arts Contribute More Than \$114B to New York State Economy. NYSCA Blog. <https://arts.ny.gov/blog/arts-add-114b-new-york-state-economy>
- ^{xvi} The Broadway League. (November 2019). Demographics of the Broadway Audience 2018-2019 Season. <https://www.broadwayleague.com/research/research-reports/>
- ^{xvii} Stringer, S. (October 2019). The Creative Economy: Art, Culture and Creativity in New York City. New York City Comptroller. <https://comptroller.nyc.gov/reports/the-creative-economy/>
- ^{xviii} Haggag, D., & Kang, E. (2020). Creating a More Equitable Workforce by Learning from New York City's Artists. Andrew W. Mellon Foundation, 5.
- ^{xix} Americans for the Arts Action Fund. (November 2019). Why the Arts Matter in New York. <https://www.artsactionfund.org/sites/artsactionfund.org/files/Why%20the%20Arts%20Matter%20in%20New%20York.pdf>
- ^{xx} Benincasa, J., Chiarito, J., Tobin, K.T., Waltermaurer, E. (2014). Mid-Hudson Arts & Culture: The Economic Impact. Center for Research, Regional Education and Outreach. https://www.newpaltz.edu/media/the-benjamin-center/crreo_artculture2014.pdf
- ^{xxi} Americans for the Arts Action Fund. (November 2019). Why the Arts Matter in New York. <https://www.artsactionfund.org/sites/artsactionfund.org/files/Why%20the%20Arts%20Matter%20in%20New%20York.pdf>
- ^{xxii} Haggag, D., & Kang, E. (2020). Creating a More Equitable Workforce by Learning from New York City's Artists. Andrew W. Mellon Foundation, 7.
- ^{xxiii} Jacobs, J. (2020). Arts Groups Fight Their Insurers Over Coverage on Virus Losses. The New York Times. <https://www.nytimes.com/2020/05/05/arts/insurance-claims-coronavirus-arts.html>
- ^{xxiv} Nichols, B. (2011). Artists and Arts Workers in the United States. National Endowment for the Arts, 10.
- ^{xxv} Many artists do qualify for the Pandemic Unemployment Assistance program, but the longevity of that program may be limited, as it is currently scheduled to end at the end of 2020.
- ^{xxvi} Haralson, L. (April 1, 2010). What Is Workforce Development? St. Louis: Federal Reserve Bank of St. Louis. <https://www.stlouisfed.org/publications/bridges/spring-2010/what-is-workforce-development>

- ^{xxvii} New York State (May 3, 2019). Governor Cuomo Launches \$175 Million Workforce Development Initiative. Albany: New York State. <https://www.governor.ny.gov/news/governor-cuomo-launches-175-million-workforce-development-initiative>
- ^{xxviii} Donovan and Bradley. (July 23, 2019). Real Wage Trends 1979 to 2018. Congressional Research Service. <https://fas.org/sgp/crs/misc/R45090.pdf>
- ^{xxix} There are some efforts on the part of individual companies to move towards skill or competency-based hiring, which could remove barriers to economic and social mobility for non-college educated workers (see, e.g., Staley, O. (Dec. 15, 2016). For a Career at IBM, You Can Skip the College Education. Quartz. <https://qz.com/858194/ibm-employees-without-college-education/>
- ^{xxx} Cooper, P. (April 30, 2020). Beware Degree Inflation in the Coming Recession. Forbes. <https://www.forbes.com/sites/prestoncooper2/2020/04/30/beware-degree-inflation-in-the-coming-recession/#61e87e5661f6>
- ^{xxxi} National Skills Coalition. (March 10, 2020). Skills Mismatch: Lack of Access to Skills Training Hurts New York’s Workers and Businesses. National Skills Coalition. https://nationalskillscoalition.org/resources/publications/middle-skill-fact-sheets/file/NewYork_skillsmismatch.pdf
- ^{xxxii} Barton, A. Letter from NYSERDA President and CEO, 2019 New York Clean Energy Industry Report (2019). New York State Energy Research and Development Authority. <https://www.nyserda.ny.gov/About/Publications/New-York-Clean-Energy-Industry-Report>
- ^{xxxiii} DiNapoli and Bleiwas. (April 2019). New York City Employment Trends. Albany: Office of the New York State Comptroller. <https://www.osc.state.ny.us/sites/default/files/reports/documents/pdf/2019-08/report-1-2020.pdf>
- ^{xxxiv} Debroy, P. Reach for the STARS: The Potential of America’s Hidden Talent Pool in a post-COVID-19 Recovery (Presentation to Reimagine NY Commission). Opportunity@Work.
- ^{xxxv} Dvorkin, E. (February 2020). Plugging In: Building NYC’s Tech Education & Training Ecosystem. New York: Center for an Urban Future. <https://nycfuture.org/research/plugging-in>
- ^{xxxvi} Burning Glass Technologies (September 2017). The Digital Edge: Middle-skill Workers and Careers. https://www.burning-glass.com/wp-content/uploads/Digital_Edge_report_2017_final.pdf
- ^{xxxvii} Smith, B. (June 2020). Microsoft launches initiative to help 25 million people worldwide acquire the digital skills needed in a COVID-19 economy. Official Microsoft Blog. <https://blogs.microsoft.com/blog/2020/06/30/microsoft-launches-initiative-to-help-25-million-people-worldwide-acquire-the-digital-skills-needed-in-a-covid-19-economy/>
- ^{xxxviii} Bergson-Shilcock, A. (May 2020). The New Landscape of Digital Literacy. National Skills Coalition. <https://nationalskillscoalition.org/resources/publications/file/New-Digital-Landscape-web.pdf>
- ^{xxxix} Ibid.
- ^{xl} Carnevale, Smith, and Strohl. (June 2013). Recovery: Projections of Jobs and Education Requirements Through 2020. Washington: Georgetown Public Policy Institute. https://1gyhoq479ufd3yna29x7ubjn-wpengine.netdna-ssl.com/wp-content/uploads/2014/11/Recovery2020.FR_Web_.pdf