futureworks
STRATEGIES FOR REGIONAL DEVELOPMENT

Building Opportunity and Growth
Labor Market and Talent Development Assessment for the Westchester and Putnam County Region

Submitted to:
Westchester Community Foundation

Submitted by:
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Program and Policy Insight

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INTRODUCTION

Westchester County and Putnam County sit just north of New York City and are home to more than 40,000 businesses, almost a half-million jobs and an equal number of residents in the labor force. Within these aggregate numbers is tremendous diversity - in the mix of industry, demand for workers, demographics of the residents, and who among workers is benefiting and who is economically vulnerable. This report, supported by the Westchester Community Foundation, seeks to build a deeper understanding of talent development opportunities to build economic growth for business and greater prosperity for residents in the counties.

The research for this report focused on three questions:

- What is the current labor market and workforce development, or talent development, landscape?[1]
- What would a system response look like to meet the employment needs of priority populations and take advantage of labor market opportunities?
- What potential roles and structures can funders and key institutions play to support the response?

Westchester Community Foundation retained FutureWorks and Program and Policy Insight to complete an analysis of the Westchester County and Putnam County labor market and conduct a scan of key talent development institutions, providers, and intermediaries. The research team examined secondary quantitative data on the labor force and jobs, reviewed reports and studies on the economy and talent development, and completed interviews with key leaders from civic, educational, economic development, business, and non-profit groups. The team also facilitated a consensus building workshop on July 10, 2018 with regional leaders that identified key priorities and attributes of an effective talent development system in Westchester and Putnam counties.

This report provides a summary analysis of the research and outlines strategic opportunities to align regionwide resources and identify new collaborative approaches to build opportunity and growth through talent development. The first part of the report examines the Westchester County and Putnam County labor market and jobs environment. This includes the region's labor force and changing population demographics, the mix of industry and jobs in the two counties, and the demand for workers. The second part of the report reviews the local talent development ecosystem. It outlines key talent development institutions and organizations, their roles and relationships, and their outputs in the system. The third part is the results from a community consensus building workshop that identified the desires for and attributes of an effective talent development system in Westchester and Putnam

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[1] Leaders in the field have increasingly shifted to use "talent development" instead of "workforce development" to describe the activities, programs, institutions, and strategies to build the skills, talents, and economic security of students, workers in the labor force, and employees in businesses. While the original research question was framed using the descriptor of "workforce development," we will use the more inclusive term of "talent development" throughout this report.

counties. The final part of the report identifies strategic opportunities and early steps for Westchester Community Foundation and its partners to build more effective and collaborative approaches to talent development.

Appendices at the end of the report contain additional information on methodology and sources, explanatory data, and a note on the limits of the data.

LABOR MARKET AND JOBS ENVIRONMENT

Regional economic growth and economic opportunity rely on robust labor force participation among area residents, the availability of career-oriented and family supporting jobs, and the ability of businesses to find workers with the right skills. This section of the report provides analysis on the region's labor force and population demographics, job structure and business demand for workers. The analysis is the foundation from which area leaders can identify labor market strengths, challenges, and opportunities from which to build forthcoming talent development efforts.

LABOR FORCE, DEMOGRAPHICS AND INCOME

LABOR FORCE IS STRONG, AND UNEMPLOYMENT IS DECLINING

Economic growth and economic opportunity depend on participation of an area's residents in the local or regional labor force. Two thirds, or 66 percent, of all working age residents in Westchester and Putnam counties are either employed or actively looking for work: approximately 484,100 residents in Westchester County and 51,300 residents in Putnam County.   This dual county labor force participation rate of 66 percent has stayed consistently above the New York State rate for the last decade. And, as the region's economy has improved, so has the rate of unemployment in both counties -- the unemployment rate for Westchester and Putnam has fallen from a high of more than 7.0 percent at the height of the 2007-2009 recession to between 4.0 and 4.5 percent in 2018. However, when the data are disaggregated to provide a snapshot of Westchester County and Putnam County's unique municipalities, we will see that there are also persistent pockets of unemployment and employment at low wages. (See **Figure 1** .)

Figure 1 Two-thirds of Working Age Westchester Putnam Residents are in the Labor Force

Working Age Residents in Westchester Putnam

Residents Not in Labor Force, 280,196

Residents in Labor Force, 535,400
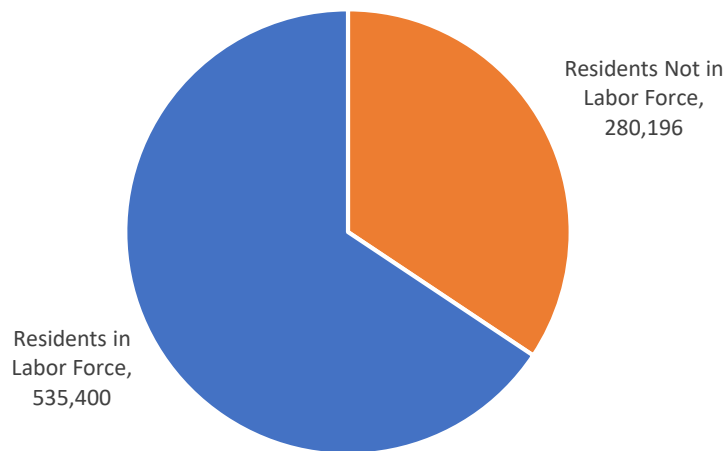
Source: NYSDOL, Division of Research and Statistics, Local Area Unemployment Statistics 2017

WHO'S IN THE LABOR FORCE	WHO'S NOT IN THE LABOR FORCE
Residents age 16 and up who are either employed or are looking for a job.	Everyone else, including people who have given up looking for work, people who can't work for health reasons, full-time caregivers and retirees.

LABOR FORCE IS CONNECTED TO METRO REGION OPPORTUNITIES

Working residents of Putnam and Westchester have deep connections to the robust job market in the surrounding region that makes up the New York City metropolitan area. In both counties, more residents work outside the county than inside the county.

- Slightly more than half of Westchester's working residents (54 percent) find employment outside the county and about four in five Putnam residents (79 percent) find employment outside the county.[2]
- High outbound communities are in Putnam County and southern Westchester County.

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[2] Source: On the Map, US Census, 2015.

- In Westchester, 217,390 individuals commute into the county for work, 189,451 are employed and live in the county, and 221,460 commute out of the county.
- In Putnam, 15,643 individuals commute into the county, 9,835 are employed and live in Putnam, and 37,424 commute out of the county.

UNEMPLOYED AND MARGINALLY ATTACHED WORKERS PERSIST IN THE REGION

Despite the region's relatively robust labor market and connections to jobs throughout the metropolitan area, there are large groups of resident workers in the two counties who are unemployed or otherwise economically insecure.[3] More finely grained labor force data show that just about 42,000 Westchester and Putnam residents are unemployed or marginally attached to the labor force. This includes 24,100 residents who are unemployed and another estimated 14,800 residents who want full-time work but can only find part-time work.   There are also close to 3,000 residents who are "discouraged" workers - residents who have given up on seeking employment and dropped out of the labor force altogether. These workers may be discouraged because their skills no longer match available jobs, discrimination prevents them from obtaining a job, or a reoccurring illness makes it hard to find or keep a job. (See **Figure 2**.)

Figure 2 Over 40,000 Westchester Putnam Residents are Unemployed or Marginally Attached to the Labor Force

Westchester and Putnam Working Age Residents

In Labor Force Unemployed	**24,100**
In Labor Force Employed PT but desire FT	14,800
Not in Labor Force, Discouraged Worker	3,000

Source: Estimates combine national and state labor force utilization measures from the Bureau of Labor Statistics applied to NYSDOL, Labor Area Unemployment Statistics, 2017 for Westchester and Putnam counties. See footnote.

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[3] Government statistics do not provide a total number of people who are underemployed. However, the Bureau of Labor Statistics includes a measure called the U-6, which measures the number of people who are unemployed, the number of people who are "marginally attached" (defined by the BLS as people who are not in the labor force, want and are available for work, and have looked for a job sometime in the past 12 months), and people who are working part time for economic reasons (this last group is widely known as "involuntary part-time workers"). We use this measure and apply it to labor force statistics in Westchester and Putnam to arrive at our estimates of resident workers who are unemployed or otherwise economically insecure, a proxy for what some people call underemployed workers. See more at https://www.bls.gov/cps/faq.htm#Ques11

HIGH MEDIAN INCOMES OBSCURE DISPARITY AND VARIATION BY MUNICIPALITY

Westchester and Putnam counties have residents with some of the highest median household incomes in the state. Putnam County's median household income of $97,606 in 2016 is $37,000 higher than the state median ($60,741). Westchester County's median household income of $86,226 is $25,000 higher than the state median. (See **Figure 3**.)

Figure 3 Westchester Putnam Counties Have Some of the Highest Median Incomes in the State

Median Household Income, 2016.
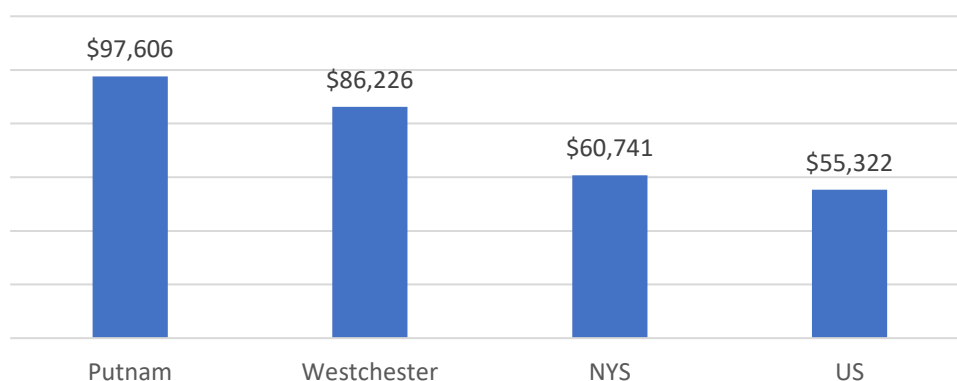
Despite these relatively high regionwide averages, data in Figure 4 below from 5-year averages from the US Census American Community Survey show disparity and considerable variation in income, earnings and unemployment across municipalities in the two counties. [4] (See **Figure 4**.)

- For example, there are almost 100,000 people living in poverty across the two counties. Much of the poverty is concentrated in a handful of municipalities, including the cities of Mount Vernon, New Rochelle, Peekskill, White Plains, and Yonkers and towns of Mount Kisco, Patterson, and Rye (which includes the villages of Port Chester and Rye Brook).[5] In each of these municipalities, more than 10 percent of residents are living below the federal poverty line.

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[4] See Appendix A for a complete list of designated cities and towns, as well as villages, included in the US Census data.

[5] There are 90,752 Westchester County residents living in poverty and 5,212 Putnam County residents living in poverty, according to the US Census ACS 5-year estimates, 2016. The U.S. Census Bureau uses a set of dollar value thresholds that vary by family size and composition to determine who is in poverty. The poverty threshold was income below $24,563 for a family of 4 in 2016. A complete and updated list of the poverty threshold tables can be found at https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html.

- The same variation exists in terms of median household income, per capita income and worker earnings. There are four municipalities in the two counties that average at least $10,000 or more below countywide averages across all three of these income metrics. These are the cities of Mount Vernon, Peekskill, and Yonkers and the Town of Mount Kisco. Of course, there are many other cities and towns that fall below countywide averages but not to the same degree across all three metrics.
- Data on employment show that the cities of Mount Vernon, New Rochelle Peekskill, Rye, and Yonkers and the Town of Harrison in Westchester County and the towns of Kent and Carmel in Putnam County have higher unemployment rates than the county averages.[6]

Compounding these indicators of economic insecurity for many county residents is the high cost of living. Data compiled by the Westchester Children's Association from the US Census show that 55 percent of renting households in Westchester County are "rent-burdened," meaning they pay more than 30 percent of their income to rent.[7] Moreover, according to research published by the United Way of Westchester and Putnam, a "survival budget" for a four person household living in a county close-by to New York City (two adults and two children) is $78,720.[8] Data in the chart below show that the median earnings for workers living in Westchester County and Putnam County is below this survival budget in 26 of the 31 cities and towns listed (only the towns of New Castle, North Castle, Pound Ridge, and Scarsdale and the City of Rye had median earnings for workers *above* the household budget floor of $78,720 per year).

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[6] Unemployment rates in the chart are averages across five years of surveys and estimates from the US Census American Community Survey from 2011-2016. New York State labor market information does not make estimates from its Labor Area Unemployment Statistics data set for municipalities with population under 25,000. More recent labor force and unemployment data supplied by the NYS DOL for these larger municipalities can be found in the Appendix B.

[7] See the county snapshot report from the Westchester Children's Association at https://wca4kids.org/our-work/interactive-data/2018-community-snapshots/ . See also the report Out of Reach: The High Cost of Living for more statewide and metropolitan data on housing costs at https://nlihc.org/sites/default/files/oor/OOR_2018.pdf

[8] See the United Way of Westchester and Putnam Household Survival Budget, New York Regions at http://www.uwwp.org/pdfs/ALICE-WP-Insert.pdf . Data are for 2014.

Figure 4 Poverty Income Earnings and Unemployment Vary Greatly Across Municipalities

Highlighted Data Signifies Higher than County Average for Poverty and Unemployment and Below County Average for Income and Earnings

| Poverty, Income, Earnings and Unemployment 2016					
Geography	**Poverty Rate**	**Median HH Income**	**Per Capita Income**	**Median Earnings for Workers**	**Unemployment Rate**
Westchester County	9.8	**$86,226**	**$49,938**	**$43,379**	7.1
Bedford	5.1	$130,436	$75,277	$51,684	4.3
Cortlandt	5.5	$99,774	$49,067	$50,827	7.0
Eastchester	3.0	$110,360	$70,207	$60,299	6.1
Greenburgh	4.9	$115,249	$60,224	$55,091	5.9
Harrison	8.0	$107,344	$61,978	$41,163	7.4
Lewisboro	2.9	$144,896	$74,983	$62,101	6.5
Mamaroneck	6.4	$114,509	$75,915	$61,752	5.8
Mount Kisco	12.1	$66,265	$37,432	$27,315	6.1
Mount Pleasant	8.5	$105,147	$48,377	$44,120	6.0
Mount Vernon	16.0	$51,886	$28,339	$32,726	10.8
New Castle	3.1	$204,531	$93,095	$82,906	4.2
New Rochelle	11.4	$73,178	$41,730	$40,308	7.5
North Castle	2.4	$177,568	$96,799	$70,014	4.8
North Salem	5.0	$126,724	$68,772	$60,743	3.1
Ossining	9.7	$82,440	$41,218	$35,528	6.6
Peekskill	12.4	$55,453	$32,193	$30,271	8.2
Pelham	3.3	$150,688	$78,119	$69,564	4.5
Pound Ridge	2.4	$188,464	$108,838	$81,964	3.7
Rye (city of)	3.3	$162,394	$89,301	$80,720	7.6
Rye (town of)	10.5	$73,773	$38,754	$30,899	4.9
Scarsdale	2.7	$250,000	$120,141	$103,716	3.2
Somers	2.3	$114,145	$56,284	$58,279	5.0
White Plains	11.9	$82,460	$47,024	$41,708	6.7
Yonkers	17.0	$61,272	$31,364	$37,497	8.6
Yorktown	2.4	$108,616	$48,188	$51,105	5.1
Putnam County	5.2	**$97,606**	**$41,993**	**$43,786**	6.2
Carmel	3.1	$102,783	$42,053	$47,660	6.3
Kent	4.7	$90,528	$41,610	$44,491	6.4
Patterson	10.6	$93,382	$33,795	$40,179	6.1
Philipstown	5.3	$102,097	$52,755	$45,758	5.5
Putnam Valley	5.5	$107,031	$44,629	$52,160	6.0
Southeast	5.7	$91,818	$40,128	$37,405	6.1
Highlighted data indicates above county average for poverty and unemployment and below county average for income and earnings.					
Source: US Census, ACS 5-year estimates, 2016.					

POPULATION GROWTH FUELED BY INFLUX OF MINORITY GROUPS

Even though the population of the two counties grew at a moderate pace of 3 percent since 2010, which is about the statewide rate, all the net population growth from 2010 to 2017 was due to growth among ethnic and racial minority populations. The region's Hispanic population grew by a net of 35,558 people between 2010 and 2017, the Asian, non-Hispanic population grew by 9,381 people, and the Black, non-

Figure 5 Population Growth of Minority Groups Outpaces Growth of White Residents

Population by Race/Ethnicity Westchester Putnam 2010 and 2017

Hispanic population grew by 6,387 people. On the other hand, the total population of White, non-
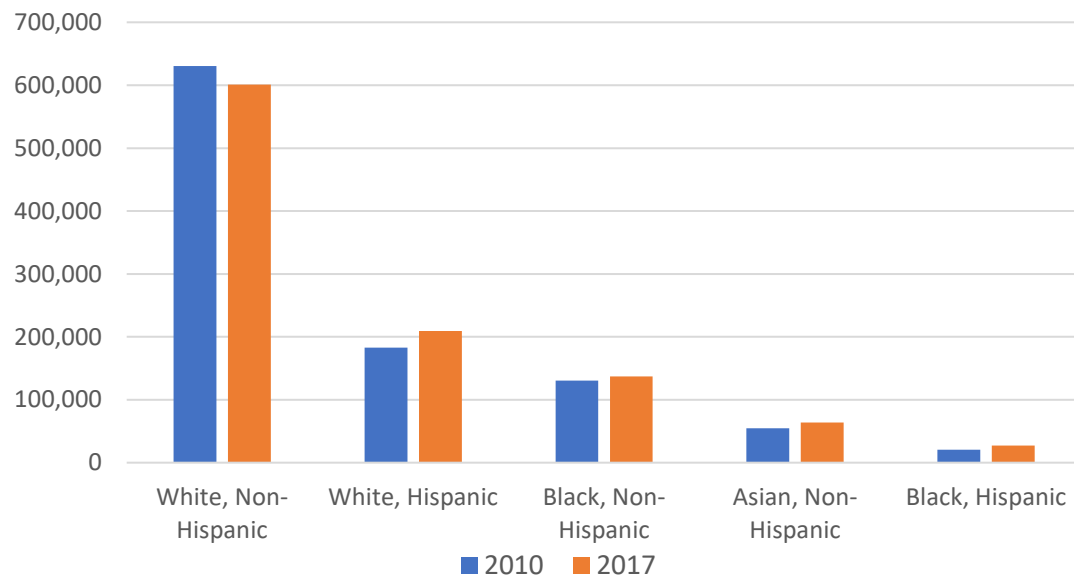
Source: EMSI, US Census Bureau, ACS 5-year averages

Hispanic population in Westchester and Putnam counties declined by 29,182 people. Today almost 25 percent of the Westchester and Putnam population is foreign born, or 259,965 of the 1,068,637 residents in the two counties.   (See **Figure 5**.)

COMMUNITIES OF COLOR ARE GEOGRAPHICALLY CONCENTRATED AND YOUNG

Ethnic and racial minority groups live concentrated in a handful of municipalities. Those cities and towns with concentrations of minority and/or Hispanic residents higher than 25 percent of the total population include the cities of Mount Vernon, New Rochelle, Peekskill, White Plains, and Yonkers and the towns of Greenburgh (which includes the village of Tarrytown)[9], Mount Kisco, Mount Pleasant

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[9] Greenburgh also includes the villages of Ardsley, Dobbs Ferry, Elmsford, Hastings-on-Hudson, Irvington, Tarrytown; and the unincorporated areas of Fairview, Greenville (known as Edgemont) and Hartsdale. See Appendix A for a more complete list for each town.

(which includes the villages of Pleasantville and Sleep Hollow), Ossining, and Rye (which includes the villages of Port Chester and Rye Brook).[10] (See

Figure **6**.)

Figure 6 Racial and Ethnic Minority Groups Live Concentrated in a Handful of Municipalities

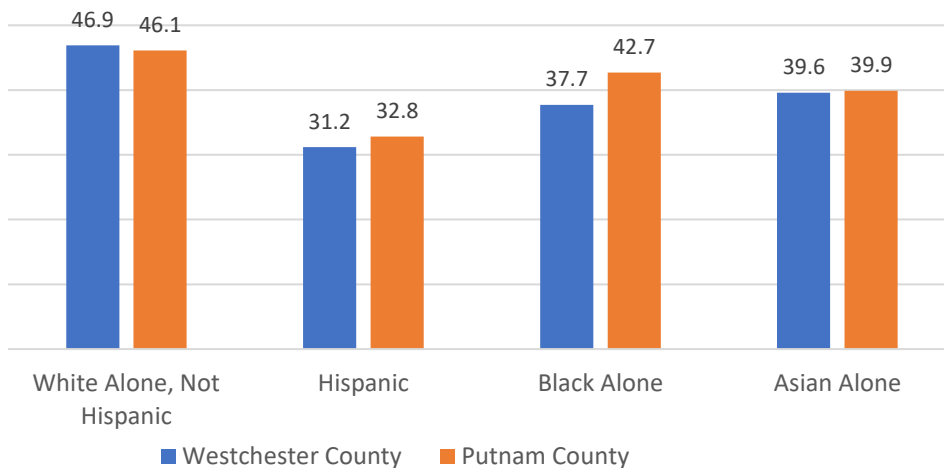| Population by Race Ethnicity 2016		
Geography	**Percent White, Not Hispanic or Latino**	**Percent Non-White, Not Hispanic or Latino**	**Percent Hispanic or Latino**
Westchester County			
Bedford	89.6%	10.4%	15.8%
Cortlandt	85.4%	14.6%	18.0%
Eastchester	85.3%	14.7%	5.9%
Greenburgh	70.9%	29.1%	17.8%
Harrison	84.7%	15.3%	14.7%
Lewisboro	93.2%	6.8%	5.8%
Mamaroneck	86.1%	13.9%	19.6%
Mount Kisco	86.9%	13.1%	81.0%
Mount Pleasant	86.5%	13.5%	25.9%
Mount Vernon	19.1%	80.9%	19.4%
New Castle	88.2%	11.8%	4.6%
New Rochelle	65.5%	34.5%	40.9%
North Castle	92.0%	8.0%	11.2%
North Salem	90.9%	9.1%	7.9%
Ossining	71.0%	29.0%	53.9%
Peekskill	54.3%	45.7%	64.2%
Pelham	78.0%	22.0%	13.3%
Pound Ridge	91.2%	8.8%	1.6%
Rye (city of)	91.5%	8.5%	7.7%
Rye (town of)	82.8%	17.2%	79.7%
Scarsdale	81.0%	19.0%	4.7%
Somers	94.5%	5.5%	8.0%
White Plains	68.2%	31.8%	52.8%
Yonkers	62.2%	37.8%	55.2%
Yorktown	88.2%	11.8%	15.7%
Putnam County			
Carmel	94.1%	5.9%	12.4%
Kent	91.4%	8.6%	18.6%
Patterson	87.8%	12.2%	19.8%
Philipstown	92.9%	7.1%	7.1%
Putnam Valley	95.3%	4.7%	9.1%
Southeast	93.7%	6.3%	24.3%
Highlighted data indicates race or ethnic concentration more than 20 percent of popualtion.			
Source: US Census, ACS 5-year estimates, 2016.			

Moreover, the region's communities of color are comparatively younger than the White, non-Hispanic population. For example, the median age of residents of Hispanic origin is 31.2 years old in Westchester

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[10] For a full list of villages within each of the municipalities see Appendix A.

County and 32.8 years old in Putnam County, about 15 years younger than the median age of White, non-Hispanic residents.   (See **Figure 7**.)

Figure 7 White Residents Are Older Relative to Other Demographic Groups

Median Age by Race/Ethnicity, 2016

	White Alone, Not Hispanic	Hispanic	Black Alone	Asian Alone
Westchester County	46.9	31.2	37.7	39.6
Putnam County	46.1	32.8	42.7	39.9

Source: EMSI, US Census Bureau, ACS 5-year average 2016

HIGH EDUCATION ATTAINMENT VARIES BY RACE/ETHNICITY

On average, residents of Westchester and Putnam have some of the highest education attainment rates in the nation. In 2016, 67 percent of Westchester Putnam residents ages 25 and older earned some type of postsecondary credential, including some college, associate degree, bachelor's degree or higher. Almost one in every four residents earned a graduate or professional degree and another one in four residents has earned a bachelor's degree. This proportion of highly educated residents is significantly higher than New York State and the nation. (See **Figure 8**.)

Figure 8 Westchester Putnam Residents Are Highly Educated

Educational Attainment, Age 25+, 2016
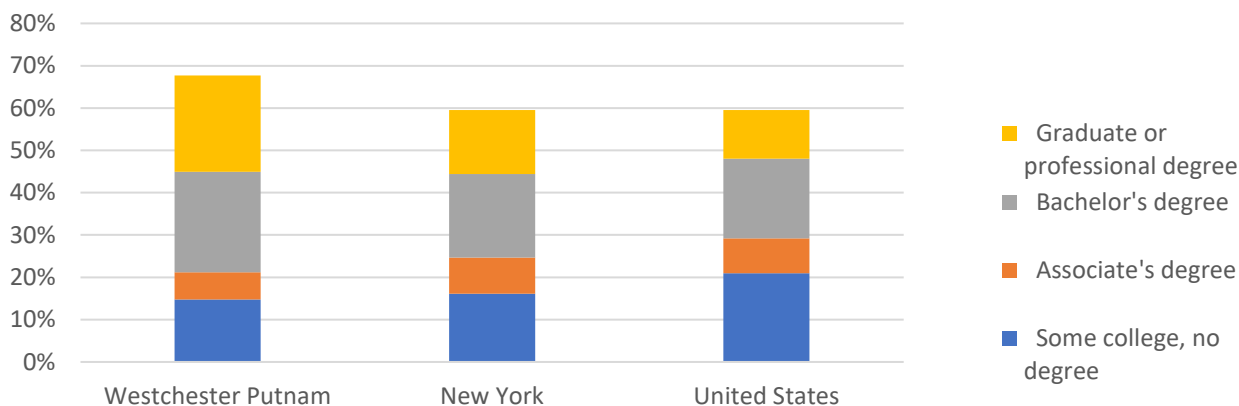
Source: EMSI, US Census Bureau, ACS 5-year average 2016

At the same time, there is wide variation among levels of education by race and ethnicity within these high overall county averages. For example, 78 percent of Asians and Pacific Islander residents and 74 percent of white residents 25 years and older have attained some college, an associate degree, or bachelor's degree or more.[11] The rates are almost reversed for Black and Hispanic groups. The most common education level among Black and Hispanic residents is a high school diploma or less, at 43 percent and 54 percent respectively. (See **Figure 9**.)

Figure 9 Educational Attainment Varies by Race

Educational Attainment of Westchester Putnam Residents 25 years and older by Race/Ethnicity, 2014
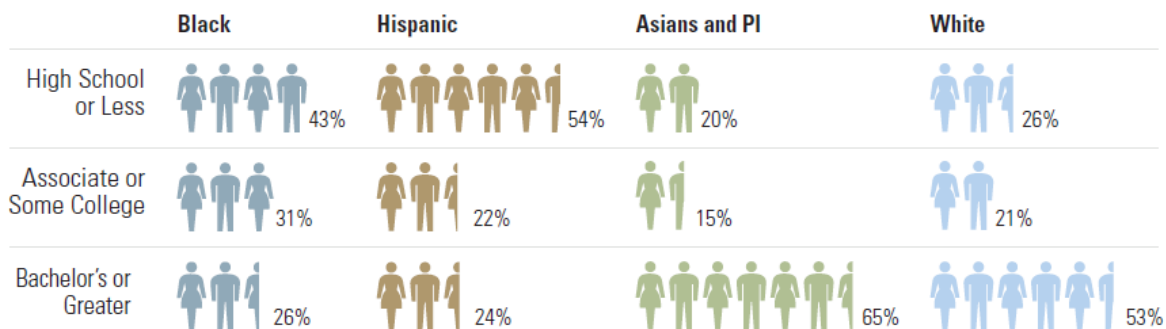
Source: NYCLMIS analysis of Census Bureau, American Community Survey Public Use Microdata Sample, 2014, as presented in "Connecting to Promising Careers: Middle-Skill Jobs in the Lower Hudson Valley"; JP Morgan Chase.

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[11] "Connecting to Promising Careers: Middle-Skill Jobs in the Lower Hudson Valley," J.P. Morgan Chase & Co New Skills at Work, New York City Labor Market Information Service, and Westchester Community College, 2016.

ECONOMICALLY VULNERABLE POPULATIONS MAY FACE GREATER EMPLOYMENT BARRIERS

Workers with low education attainment: A disproportionate share of the region's economically vulnerable workers have low educational attainment and/or are linguistic minorities. According to the 2016 report "Connecting to Promising Careers: Middle-Skill Jobs in the Lower Hudson Valley," 49 percent of residents in Westchester and Putnam with a high school diploma or less were unemployed or not in the labor force. Almost 25 percent of the Westchester and Putnam foreign born population with a high school diploma or less were unemployed or not in the labor force.

Older workers: Many Westchester and Putnam workers over 55 years of age are in precarious and unstable economic situations. In 2016, there were 86,000 residents over 55 who were in the labor force in Westchester and Putnam. Of these 86,000, about nine percent, or 7,750 resident workers over 55 were either unemployed, working part-time for economic reasons, or are available and want a job but can't find one. Moreover, national estimates indicate that about 1 in 4 jobs held by workers over 55 were in what some define as more insecure jobs, a proportion that has grown by 10 percentage points over the last decade. These more economically insecure jobs include low-wage jobs (paying less than $15,000 per year) and jobs that are on-call, temporary, short-term contract-based or otherwise in unstable work arrangements.[12] In 2014, the majority of long-term unemployed residents in the region (61 percent) were age 45 and over while only 49 percent of the labor force is age 45 and over.[13]

Anecdotal evidence from interviews with county officials and administrators of training programs suggests that older workers in Westchester and Putnam face some unique barriers that lead to economic insecurity, including skill mismatches, age discrimination, and higher costs of moving due to homeownership that reduces mobility among jobs.

Foreign-born and immigrant workers: There are more than 170,00 foreign-born residents in the labor force, roughly half (86,100) are naturalized citizens while the other half (86,200) are non-citizens. Both groups have high labor force participation rates and low unemployment rates relative to their native counterparts. However, while many of the foreign-born population in both counties are working, their wages tend to be much lower than native born residents. For example, median earnings among non-US citizen workers are about half of the median earnings of native-born workers in the counties. Moreover,

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[12] See Teresa Ghilarducci, Anthony Webb, and Michael Papadopoulos, "The Growth of Unstable and Low-Wage Work Among Older Workers," The New School for Social Research, 2018 and Alan Krueger and Lawrence Katz, "The Rise and Nature of Alternative Work Arrangements in the United States, 1995-2015," Harvard University, 2016. Katz and Krueger define alternative work arrangements consisting of temporary help agency workers, on-call workers, contract workers and independent contractors.

[13] New York State Department of Labor data, Johny Nelson, Labor Market Analyst, communication September 5, 2018 regarding the Jobs Waiting grant proposal administered by the Westchester Putnam Workforce Development Board with Westchester County Association.

somewhere between 30 to 40 percent of non-US citizen residents in Westchester and Putnam counties live in limited English-speaking households, and foreign-born workers have much lower levels of education attainment. Limited English capabilities and low education attainment limits economic mobility for the region's foreign-born workers. (See **Figure 10.**)

Figure 10 Native Born Residents Have Greater Median Earnings

Median Earnings for Full-Time Workers by Citizenship, 2016
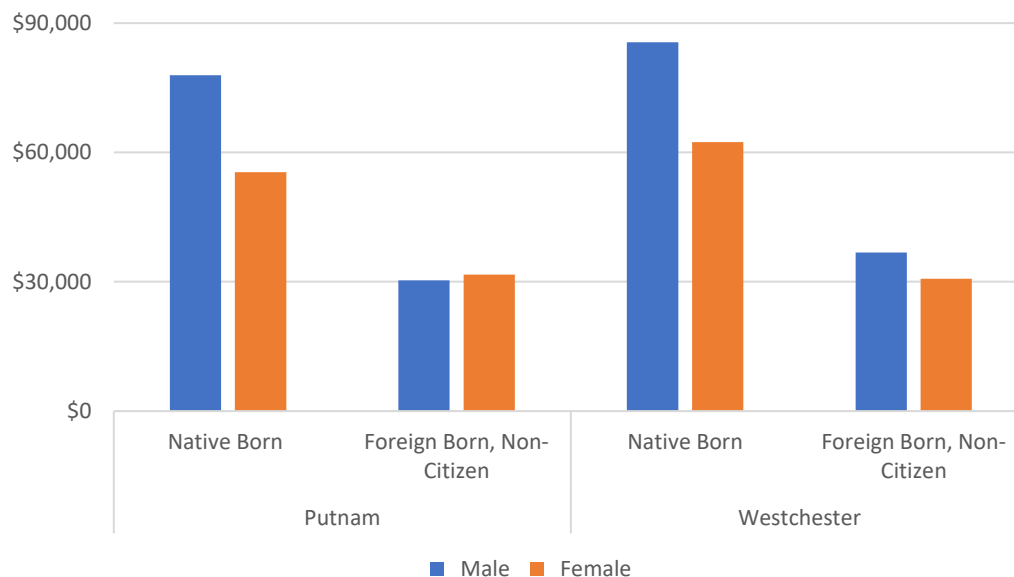
Out of work, out of school young adults: Data findings presented by JobsFirstNYC to Westchester youth development and workforce development stakeholders indicates that 10 percent of young adults, or 14,000 young residents, in Westchester County are out of school or out of work. Relative to New York State, a smaller share of these "disconnected" young adults ages 16 to 25 in the region have education attainment beyond high school – about 14 percent have some college, 2 percent an associate degree and 7 percent a bachelor's degree or higher. That means about 77 percent of disconnected young adults have a high school degree or less for education. And these educational disparities are further exacerbated by race and ethnicity – about 80 percent of Hispanic and 79 percent of Black-African American disconnected young adults have a high school degree or less.[14]

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[14] JobsFirstNYC, Mt. Vernon Convening, July 26, 2018. Data are from the American Community Survey, Integrated Public Use Microdata (IPUM).

MODERATELY GROWING JOB BASE PROVIDES OPPORTUNITY

There are more than 461,000 jobs in 40,000 businesses that stretch across Westchester and Putnam counties, including positions in an array of tech-based industries to local service, financial, hospitality, construction and healthcare-related industries.   Since the recession, businesses have added a net of more than 27,000 jobs to the economy. (See **Figure 11**.) While growing by 6.4 percent between 2010 and 2017, the region's growth in jobs still lags the rate of job growth for the state and nation. (See **Figure 12**.)

Figure 11 Westchester and Putnam Have Seen Slow, Steady Job Growth
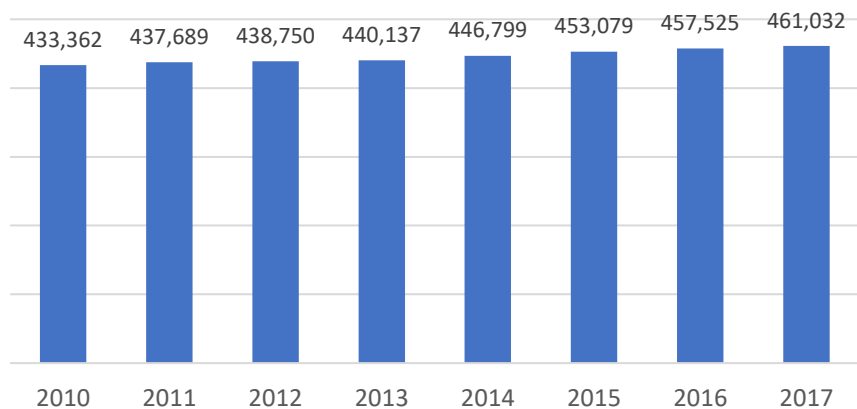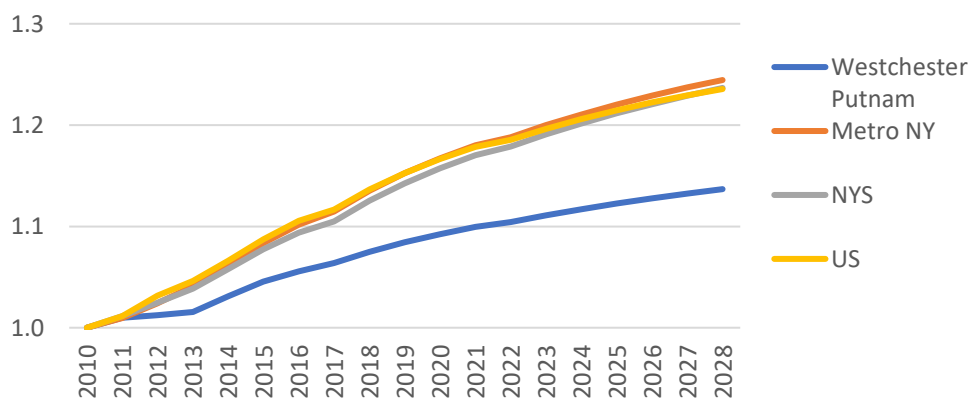
Total Jobs in Westchester Putnam

Figure 12 Westchester Putnam Job Growth Lags the State and Nation

Regional Comparison of Job Growth 2010-2017

A FEW LARGE INDUSTRIES DOMINATE JOBS

The composition of the Westchester Putnam economy is heavily weighted to health care, government, retail, hospitality and food, and construction in terms of total jobs. Data for these industries is in the figure below, which are organized by industry sectors classified through the North American Industry Classification System.[15] (See **Figure 11**.)

Figure 11 Health Care, Government, and Retail Dominate the Economy

Largest Industries in Westchester Putnam Economy, 2017

Industry	2017 Jobs	
Health Care and Social Assistance	77,752	
Government	67,457	
Retail Trade	52,758	
Accommodation and Food Services	32,788	
Construction	30,975	
Professional, Scientific, and Technical Services	27,559	
Administrativeand Waste Management	24,074	
Other Services	23,936	
Finance and Insurance	18,705	
Educational Services	18,491	
Manufacturing	14,819	
Wholesale Trade	14,594	
Transportation and Warehousing	12,372	
Arts, Entertainment, and Recreation	11,775	
Real Estate and Rental and Leasing	10,396	
Management of Companies	8,983	
Information	8,178	

Source: EMSI, BLS QCEW, 2017

EXPORT ORIENTED INDUSTRIES WITH HIGH VALUE ARE ALSO IMPORTANT

Other industries that may not contribute as many jobs but produce high value in terms of total wages and total output, or gross regional product,[16] are professional and technical services, financial services, and information. These industries, indicated by the blue bubbles in the chart below, are common targets for economic development because of their export qualities; that is, these industries sell their goods and services to markets outside the region and bring in net new income and spending to the region. For example, one of the industries that is an economic development priority for the region, biotechnology, fits this description of an export targeted industry. Local biotechnology firms produce

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[15] For more on the source of data and the definition of an industry see Appendix C. A complete list of industry classifications can be found at North American Industry Classification System.

[16] Gross Regional Product is a measure of the final market value of all goods and services produced in a region by an industry and includes aggregate taxes, earnings, and property income paid by the businesses in the industry. Gross Regional Product is the regional equivalent to the national measure of Gross Domestic Product.

research and sell their knowledge and product to customers throughout the world.[17] The figure below is a dynamic view of key industries in the region that show the relative impacts of each industry across three variables – jobs, earnings, and regional output (or Gross Regional Product). The size of the bubble represents the number of jobs in the industry. The larger the size of the bubble, the greater number of jobs in the industry. The higher the bubble is located on the Y-axis, the higher the earnings of the industry. The further to the right the bubble is located on the X-axis, the higher the Gross Regional Product of the industry. Finally, the color of the bubble indicates whether the industry is primarily an export industry (blue) or local serving, non-export industry (yellow).[18] (See **Figure 12**.)

Figure 12 Professional, Technical, and Financial Services Produce High Value

Industry Structure of Westchester Putnam Economy, 2017
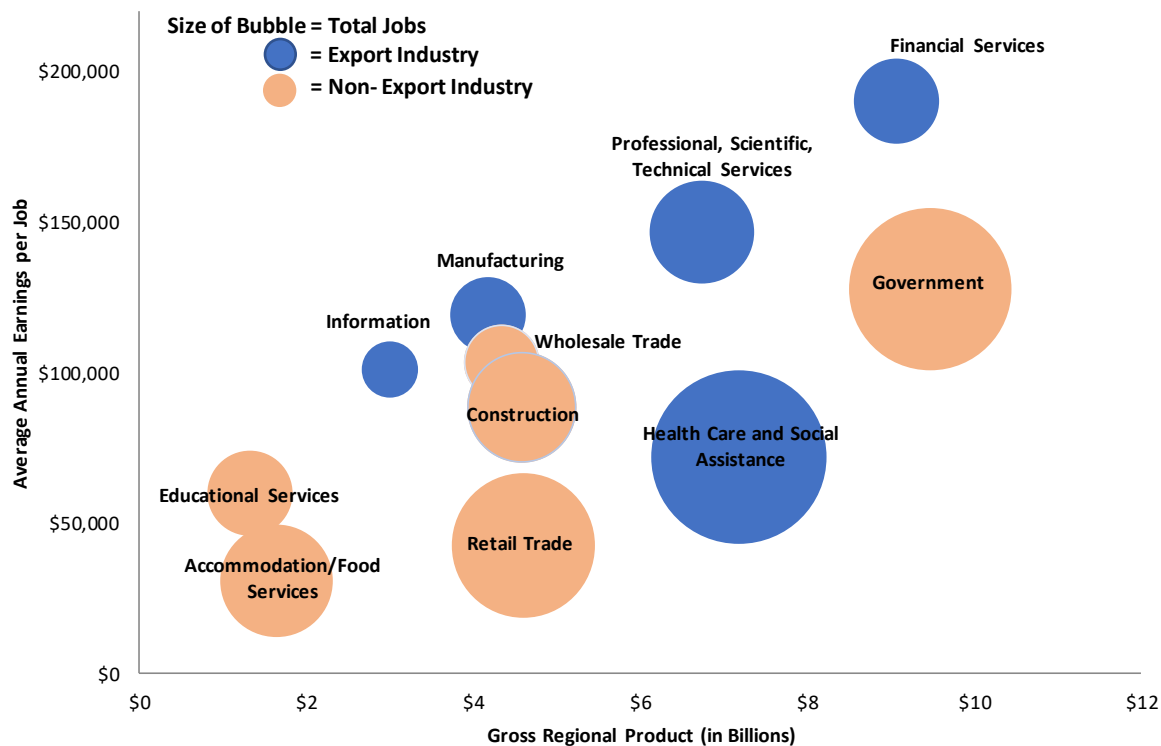
Source: BLS QCEW, EMSI 2017

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[17] Like many industries, the cluster of firms that make up biotechnology do not fit neatly into one industry sector, but can be a part of the manufacturing, health care, and professional technical services industries.
[18] The industry sectors in Figure 15 are the same industry sectors listed in Figure 14, except that some of the titles have been abbreviated for visual clarity.

OCCUPATIONAL MAKEUP MIRRORS REGIONAL INDUSTRY STRUCTURE

The distribution of occupations across the region is reflective of the large presence of local serving industries, such as healthcare, government, retail, food, and hospitality. The largest categories of jobs by occupation, or the positions that cut across the industries, is retail workers, construction workers, entry-level health care workers, restaurant workers, teachers, and building cleaners.[19] If the two categories of health-related occupations were combined it would be the biggest occupational group in terms of jobs. (See **Figure 13**.)

Figure 13 Occupation Distribution Reflects Industry Composition

Largest Occupations by Jobs in Westchester Putnam Economy, 2017

Occupation	2017 Jobs	
Retail Sales Workers	28,980	
Construction Trades Workers	20,136	
Health Diagnosing and Treating Practitioners	19,860	
Food and Beverage Serving Workers	17,677	
School Teachers	17,593	
Building Cleaning and Pest Control Workers	16,004	
Nursing, Psychiatric, and Home Health Aides	15,992	
Information and Record Clerks	15,195	
Secretaries and Administrative Assistants	15,152	
Other Personal Care and Service Workers	14,566	
Business Operations Specialists	13,583	
Other Office and Administrative Support Workers	13,112	
Material Scheduling and Distributing Workers	12,693	
Motor Vehicle Operators	11,993	
Financial Specialists	10,140	
Computer Occupations	9,876	
Cooks and Food Preparation Workers	9,241	

Source: EMSI, BLS QCEW, 2017

THERE ARE MANY JOBS WITH LOW CREDENTIAL REQUIREMENTS

The occupational distribution includes a proportion of jobs that do not require an educational credential beyond a high school diploma. Roughly 62 percent of jobs in Westchester and Putnam-based businesses do not require a postsecondary credential, while 38 percent of jobs do require postsecondary education, whether that credential is a certificate or a degree.[20] Examples of occupations that generally do not require a postsecondary credential are food and beverage serving workers (waiters and waitresses), retail sales workers, building cleaning workers, and office and administrative support workers. Occupations that generally require some form of postsecondary credential include health diagnosing

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[19] An occupation is a position in which a person works. Employees who perform essentially the same tasks are in the same occupation. Occupations can cross different industries. For example, an IT specialist (occupation) or even a building cleaner (occupation) can work in financial services, manufacturing, education, or health care (all industries). See Appendix C for more on the differences between an industry and an occupation.

[20] This distribution is projected to remain the same over the next 10 years.

and treating practitioners (nurses, doctors, dentists, etc.), school teachers, business operations specialists (human resource and marketing professionals), financial specialists, and computer workers (software developers, computer programmers, computer information analysts). (See **Figure 14**).

Figure 14 The Majority of Westchester Putnam Jobs Do Not Require Post-Secondary Education

Westchester Putnam Jobs by Educational Attainment, 2017
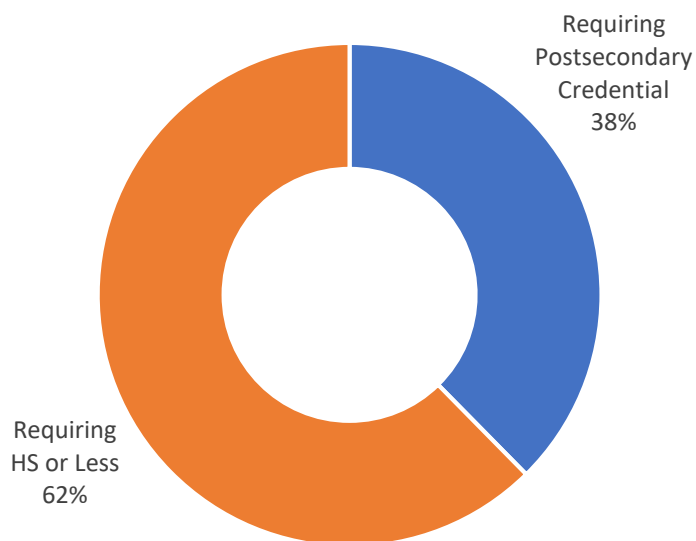
N= 461,032 jobs
Source: EMSI, BLS QCEW, 2017

TOTAL DEMAND FOR WORKERS IS PROJECTED TO GROW

Accelerated recovery among businesses from the 2007-2009 recession has fueled demand for workers of all kinds across virtually every industry, from highly educated technical professionals to frontline service workers to construction and maintenance workers. Business demand for workers is projected to grow at an intense clip over the next 10 years, likely outstripping supply in the labor force. Projections from the Bureau of Labor Statistics show that there will be more than 550,000 job openings in Westchester and Putnam-based businesses between 2018 and 2028, or an estimated 55,000 job openings per year. These job openings are created by new company growth or workers permanently leaving their current occupation due to retirement or a career change.[21]

THERE ARE EARNING GAPS FOR OCCUPATIONS IN DEMAND

Many, or even a majority, of the fastest growing occupations in demand, according to job openings, are in front-line jobs that pay near or below a living wage. Of the 20 occupations projected with the most job openings in Westchester Putnam businesses over the next decade, half are in occupations that have an hourly wage that falls below a living wage of $15.11 to $16.14 per hour for a single adult.[22] This is an hourly wage needed for an adult to meet basic living expenses, such as housing, food, and transportation. Moreover, only two of the top 20 occupations with the most job openings rise above what it takes for a living wage of one adult and one child ($30.86 to $31.32 per hour). [23] (See **Figure 15**.)

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[21] Job openings are defined by the Bureau of Labor Statistics as openings due to (1) new jobs created by expanding companies, (2) workers exiting the workforce (retirements, discouraged workers, or parents halting their participation in the labor force to be with their children, etc.), and (3) workers permanently leaving an occupation, but staying in the workforce. Job openings do not include workers simply switching jobs within an occupation.
[22] There will be a gradual increase in the minimum wage in NY over the next few years starting December 31, 2018. See more at https://www.labor.ny.gov/workerprotection/laborstandards/workprot/minwage.shtm
[23] Source: Dr. Amy K. Glasmeier, Massachusetts Institute of Technology, Living Wage Calculator, accessed July 2018. The living wage in Westchester or Putnam county is approximately $33,000 for a single adult HH and $63,000 for one adult, one child household. A chart depicting the full breadth of expenses that make up the living wage estimate is in the Appendix D. The values calculated for the living wage estimates are made for various family compositions and adjust for the cost of living in Westchester County and Putnam County.

Figure 15 Only Two of the Top 20 Occupations with the Most Job Openings Pay More than a Living Wage

Top 20 Occupations with the Most Job Openings
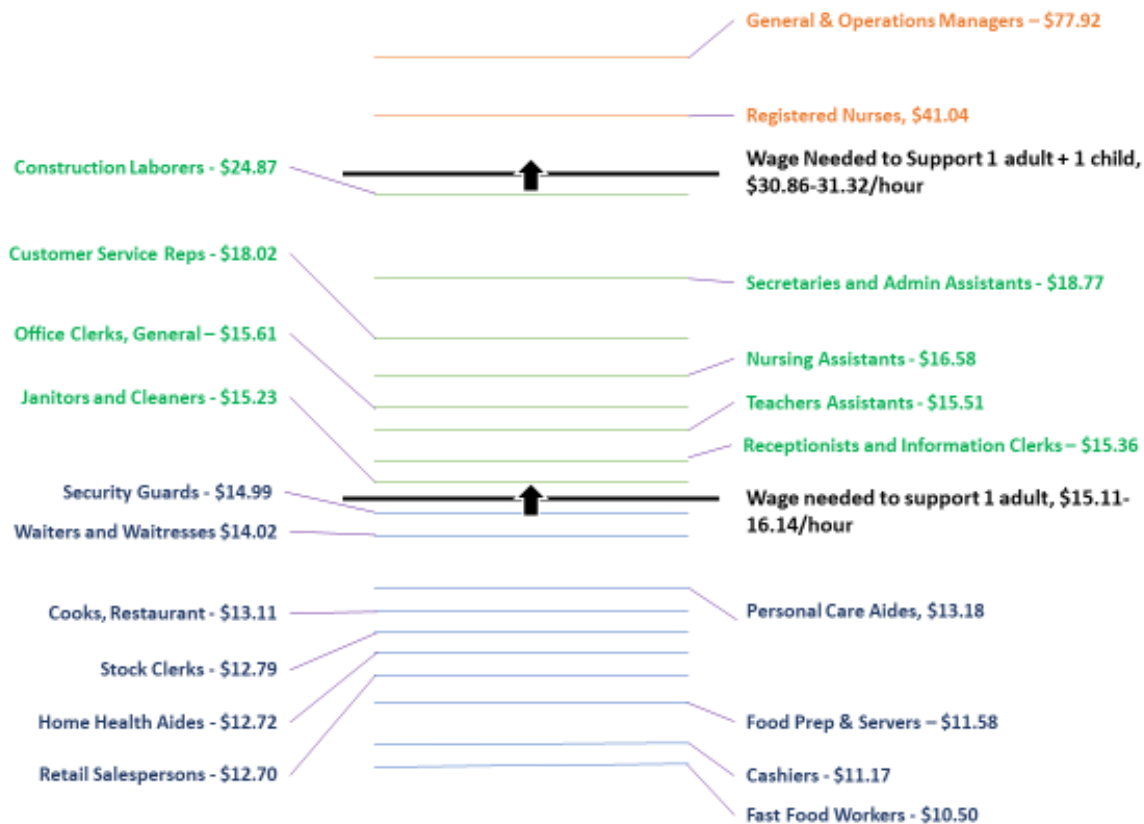
Source: EMSI, Quarterly Census Employment and Wages, 2017.

DEMAND FOR CREDENTIALED OCCUPATIONS IS STILL STRONG

Despite the prevalence of job openings projected in low-wage occupations, there is also projected high demand for jobs that require some type of postsecondary educational credential, such as jobs that require some college, associate degree, bachelor's degree or more. Projections show that Westchester and Putnam businesses will have job openings for 157,000 positions in the next 10 years, or an average of 15,700 openings each year, for jobs that require a postsecondary credential. (See **Figure 16**.)

Figure 16 High Demand for Jobs that Require Some Type of Postsecondary Credential

Projected Job Openings Requiring a Postsecondary Credential, 2018

	Postsecondary Less than 2-year (44,481)
Bachelor's (82,690)	Professional, Masters, Doctoral (19,896) / Associate (10,174)
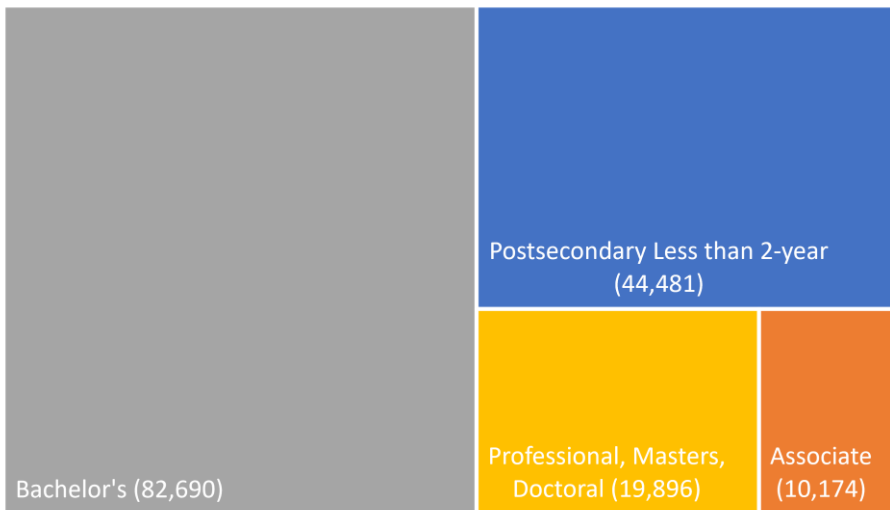
Source: EMSI, BLS Occupational Projections, 2018-2028

IN-DEMAND OPPORTUNITY OCCUPATIONS PROVIDE UNIQUE PATHS TO PROSPERITY

There are a unique group of occupations that are in high demand and provide opportunity rich positions to workers living in Westchester County and 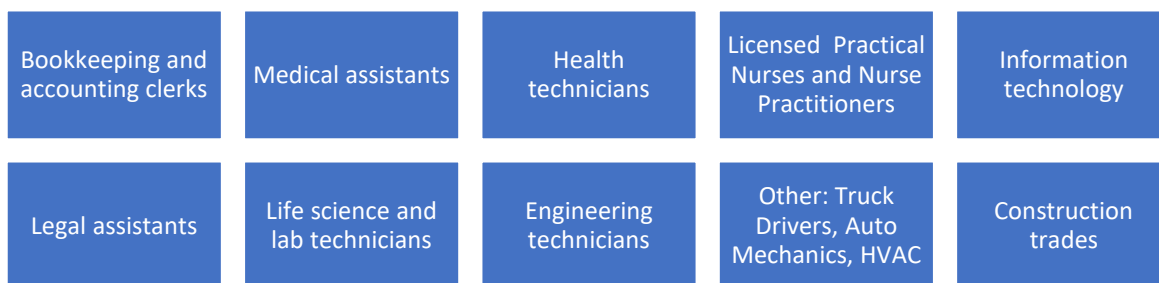Putnam County. These are occupations at Westchester and Putnam-based businesses that are projected to have substantial job openings with early career opportunities for workers, pay more than a living wage of $15.11 per hour for a single person, and require some training credential or postsecondary degree that is less than a bachelor's degree. In all, there are 6,400 annual openings in these occupational areas that spread from bookkeeping and accounting clerks to information technology to medical fields such as health technicians and licensed nurse practitioners to engineering and life science technicians to skilled construction trades. There are 10 distinct groups or "families" of these so-called "opportunity occupations" in demand and available to Westchester Putnam workers with the right skill and profile. (See **Figure 17** and **Figure 18**.)[24]

Figure 17 Opportunity Occupations Are in Demand and Provide More than a Living Wage

Opportunity Occupations in Westchester Putnam

Bookkeeping and accounting clerks	Medical assistants	Health technicians	Licensed Practical Nurses and Nurse Practitioners	Information technology
Legal assistants	Life science and lab technicians	Engineering technicians	Other: Truck Drivers, Auto Mechanics, HVAC	Construction trades

[24] See Appendix E for more detail on Opportunity Occupations Jobs and Openings, including data for sub-occupations within each group.

Figure 18 Healthcare, Construction, and Transportation Opportunity Occupations Have Greatest Projected 10-Year Growth

Westchester Putnam Opportunity Occupations Jobs and Openings

	2018 Jobs	*2028 Jobs*	*2018 - 2028 Job Change*	*2018 - 2028 % Job Change*	*2018 - 2028 Job Openings*
Engineering Technicians	717	738	22	3.0%	649
Information Technology Group	2,465	2,402	-64	-2.6%	1,781
Life Science and Lab Technicians	1,144	1,257	112	9.8%	1,181
Legal Assistants	1,052	1,165	114	10.7%	1,192
Health Technicians	3,410	4,200	790	23.2%	3,141
Medical Assistants	3,401	4,023	622	18.3%	4,568
Bookkeeping and Accounting Clerks	5,344	4,994	-350	-6.5%	5,689
Truck, Auto and HVAC	5,503	6,111	609	11.1%	6,283
Construction Trades	11,992	13,560	1,569	13.1%	14,347

EMPLOYER INPUT: TOP IN- DEMAND POSITIONS AND HIRING CHALLENGES FOR OPPORTUNITY OCCUPATIONS

Field research with area business and industry associations, and review of secondary surveys and focus groups of employers, show that there are a number of opportunity occupations, or middle skill positions, acutely in-demand. Employer input from these sources also say there are challenges to hiring employees for these middle skill positions.

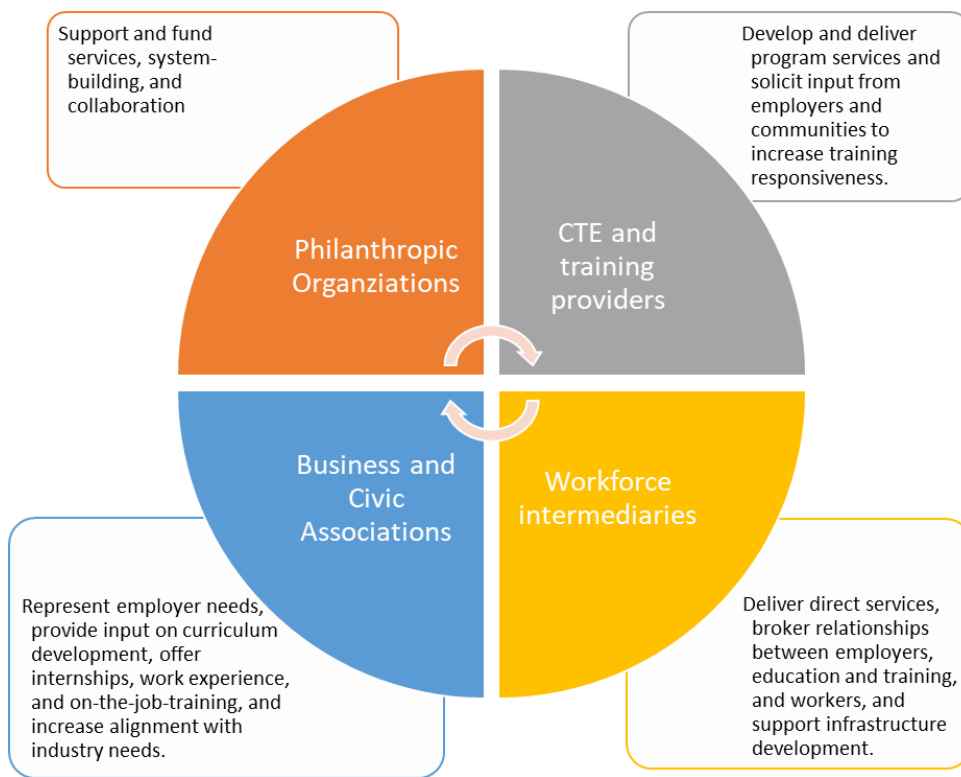| TOP MIDDLE SKILL POSITIONS IN DEMAND	CHALLENGES TO FILL MIDDLE SKILL POSITIONS IN DEMAND
Production-related: Engineering technicians (electrical mechanical technicians, CNC machinists, other machine operators), maintenance mechanics and quality inspectors, manufacturing engineers, tool and die makers.	• Interest in and knowledge of middle skill opportunities (e.g. younger generation lacks interest in or doesn't have awareness of jobs, especially in production- and trades-related careers)
Service & Professional: PC/cyber security specialists, bookkeepers, customer service representatives, business development associates.	• Low unemployment coupled with aging workforce (not enough workers)
Health Care: Nursing aides, compliance and coding specialists, direct care specialists, health technicians.	• Skills mismatch (fewer applicants with right skills for job openings) • Meeting compensation requirements (competition with NYC)
Construction: Specialized trades workers, linemen, site foremen, commercial building and site superintendents, assistant project managers.	• Company work design policies not up-to-date (flexibility, work/life balance, overtime models, wages, etc.) • Performance skills of workers (attitudes, communication skills, work ethic, professionalism) • Transportation access and housing costs difficult for employees.

Sources: Interviews with Westchester and Putnam chambers, business and industry associations; Business Council of Westchester employer survey November 2018, and Westchester County Association Hospitality Resource Group "Workforce Development Initiative Employer Focus Group and Survey Report" 2018.

TALENT DEVELOPMENT SYSTEM

The larger regional talent or workforce development ecosystem includes county-based as well as regional secondary and postsecondary educational institutions, training providers, community groups, service agencies, business intermediaries, philanthropy and public entities. Together these entities work to build economic opportunity and careers for residents and fuel business competitiveness through talent retention and productivity. (See **Figure 19**.)

Figure 19 The Talent Development System Includes Diverse Stakeholders

Key Talent Development Stakeholders and their Common Roles

Support and fund services, system-building, and collaboration

Develop and deliver program services and solicit input from employers and communities to increase training responsiveness.

Philanthropic Organziations

CTE and training providers

Business and Civic Associations

Workforce intermediaries

Represent employer needs, provide input on curriculum development, offer internships, work experience, and on-the-job-training, and increase alignment with industry needs.

Deliver direct services, broker relationships between employers, education and training, and workers, and support infrastructure development.

This first part of this section characterizes the landscape of talent development resources in Westchester and Putnam counties. This includes identification of key institutions, providers, and intermediaries and the relative scale and scope of their activities. The second part of the section analyzes key strategic opportunities that either hold back or provide strength to the functioning of the region's system of talent development.

DIVERSE AND BROAD CAPACITY IS PRESENT AMONG POSTSECONDARY INSTITUTIONS

Postsecondary institutions are the largest source of talent supply in the region. There are 36 colleges and universities in a 20-mile radius from the center of Westchester and Putnam counties that serve area residents.[25] Together these institutions granted an estimated 23,000 academic credentials in 2016, which include one-year academic certificates, two- and four-year degrees, and professional degrees.[26]

Among institutions located in the geographic boundary of the two counties, Westchester Community College (WCC) is the largest single provider of career related education and training for adults in both degree programs and non-credit programs. In

> *Over half of all publicly funded training services in Westchester and Putnam counties are delivered through credit and non-credit adult programs through area community colleges and BOCES.*

2016 alone, WCC granted 1,794 academic certificates and two-year degrees to area students.[27] The programs of study for these graduates were concentrated in several fields: Liberal Arts and Business Administration fields accounted for 56 percent of all awards, followed by Health Professions (9 percent) and Homeland Security (6 percent), which includes police and fire. All other programs account for less than 5 percent of awards each and includes programs of study for IT, Engineering and Engineering Technology, Legal Professions, and Sciences.[28] In the 2016-2017 academic year, 499 employees at area companies registered in WCC's non-credit business and industry training courses. These could include subjects like Leadership and Organizational Effectiveness, Business Communications, and Workplace Language classes. Another 3,216 students registered in WCC's non-credit vocational and profession education programs. These can range from short term certificate programs to recreational programs like financial planning and leisure topics.[29] These non-credit programs have high variation in areas of program focus, contact hours and requirements compared to for-credit courses.

The second largest source of adult training are the two regional Boards of Cooperative Educational Services (BOCES). At the Southern Westchester BOCES 1,477 adults completed an occupational training course in the 2016-2017 academic year. In the same year, 239 adults completed career and technical programs of study at the Putnam/Northern Westchester BOCES. Much of the focus of these training programs are in the skilled trades (construction, HVAC) and health care. A high proportion of the training is self-paid (more than 85 percent), meaning students fund the cost of training out of their own

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[25] See Appendix F for a list of institutions included in the analysis.
[26] National Center for Education Statistics, Integrated Postsecondary Data System, Completions, 2016.
[27] Students are not necessarily exclusively residents of Westchester and Putnam counties
[28] See Appendix G for more detail on the programs of study.
[29] Non-credit registrants are duplicated counts; that is, one student may register for multiple non-credit activities and be counted twice. SUNY defines non-credit instructional activities as "formally organized and scheduled non-credit activities which are instructional in nature and require participant registration."

pocket rather than through a subsidized voucher or public program. The other big area of adult training at the BOCES, and not counted in the completions data, is English for Speakers of Other Languages (ESOL), High School equivalency programs and basic skills literacy. Across both BOCES, more than 3,500 adult students are enrolled in these programs (completions data are not readily available).

SCORES OF SMALLER COMMUNITY AND CIVIC PROVIDERS PROVIDE CAPACITY

In addition to the larger postsecondary providers, there are scores of smaller training and employment services in the area. An inventory of employment related programs conducted by the United Way of Westchester Putnam in 2016 reveals there are more than 100 different programs. The inventory lists programs spread throughout both counties that focus on job search and placement, job training, pre-employment guidance, employment information, and counseling. Programs are geared to target populations ranging from veterans to homeless persons, developmentally disabled individuals, youth, adults, and other job seekers.[30]

Even though it appears that most of these programs are small in scale, serving from 10 to 30 job seekers each, together they provide considerable capacity for talent development and innovation. One of the larger programs in the region is Westhab. It has a central office in Yonkers and delivers a continuum of pre-employment, soft skills, job placement and occupational skills training to up to 1,000 job seekers in the course of a year, most of whom are non-traditional youth and adults (ex-offenders, disconnected youth, homeless or other at-risk adults). To supplement its capacity, at times Westhab will contract with the area BOCES or Westchester Community College to deliver occupational and technical training. The Yonkers-based organization has made a point to develop tight connections with employers as part of its job placement services, and has developed working relationships in construction, hospitality, and logistics.

THE WORKFORCE DEVELOPMENT BOARD HAS A DISTINCTIVE ROLE IN THE SYSTEM

The Westchester-Putnam Workforce Development Board (WDB) sets the vision and oversees operation of a number important, federally mandated and local workforce development services in the two counties. These include the One-Stop Career Centers which provide a central location for job seekers to obtain job search, job matching, and training services. While services are available to all job seekers, there is a strong focus on serving dislocated workers, unemployed residents, veterans, out of school youth, adults who have low literacy skills or in need of basic skills, English Language Learners, and residents who lack appropriate credentials to succeed in the workplace and strengthen the regional economy. The WPWDB sponsored programs include Ready to Work, TechHire, YouthBuild, LEAP,

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[30] See United Way (211) Inventory of Employment and Training services in Westchester and Putnam Counties at http://www.uwwp.org/pdfs/2016-7_2-1-1_data_employment-programs.pdf

STRIVE, WIOA Youth, Summer Youth Employment, WIOA Adult Training and WIOA Dislocated Worker training.

New leadership at the WDB is seeking to reinvigorate the role of the WDB's industry sector partnerships. These partnerships focus on bringing together employers in biotechnology, healthcare, hospitality, green, nonprofit, advanced manufacturing, and professional services to communicate industry workforce needs and help organize appropriate worker training to meet those needs. The redeployment of these partnerships is in the nascent stages of development.

One of the core functions of the WPWDB is to provide talent development services for area residents through Individual Training Accounts (ITA) administered by the One-Stop Career Centers. These ITAs are targeted to qualifying residents who are unemployed, dislocated, and/or economically disadvantaged. The goal is to assist residents improve their employment and career prospects in the labor market. Residents use the ITA vouchers to gain skills and/or credentials through approved training programs in the region. Forty-six different organizations provided training as Westchester-Putnam Workforce Development Board approved ITA vendors in 2017. Shown below is a 2017 list of the ITA vendors and the types of programs through which residents received vouchers and other public training funds. (See **Figure 20**.)

WESTCHESTER PUTNAM WORKFORCE DEVELOPMENT BOARD BY THE NUMBERS

Across all programs, WPWDB provided training and education services to almost 700 individuals in FY2017, including:

- Total number enrolled in training: 686
- Number enrolled in ITA training: 410
- Number completing ITA training: 269
- Total funding across all WPWDB programming: $8,395,715.00

Figure 20 The ITA Provider Network in the Region is Diffuse

Training Providers and Number of Publicly Funding Slots and Program, Westchester Putnam Region, 2017

Vendor	Return to Work	Adult Training	Dislocated Workers	TECH HIRE	Job Waiting	Totals
Westchester Community College	62	20	20	1	2	105
Southern Westchester BOCES	10	20	6	3		39
Orange-Ulster BOCES	20	0	0	7		27
Westchester School for Dental Assistants LLC	19	1	3	3	1	27
Hudson Valley Career Training	1	16	8	0	1	26
The Child Care Council of Westchester, Inc.	0	25	0	0		25
WCA Hudson Valley Workforce Academy	22	0	0	0		22
Greyston	0	6	13	0		19
Sullivan County BOCES	12	0	0	0		12
Pace University	5	0	6	0		11
Brewster Technology	5	1	3	0		9
SUNY Orange	8	0	0	1		9
SUNY Ulster Community College	9	0	0	0		9
HERITAGE AUTO SCHOOL INC	0	6	2	0		8
Eagle Eye Security Solutions, Inc.	0	4	3	0		7

RSFG Consulting Group LLC	0	0	7	0		7
Putnam/Northern Westchester BOCES	2	3	1	0	1	7
Dutchess Community College	4	0	1	0		5
Al Sorano	0	4	0	0		4
Medcerts	0	0	0	4		4
Fordham University	1	1	1	0		3
NCADD Westchester CASAC Training Program	1	0	1	1		3
NetCom Learning	0	1	1	0		2
WSWHE BOCES	2	0	0	0		2
Creative Direction Construction & Design, LLC	0	0	1	0		1
Dutchess School of Driving, Inc.	0	0	1	0		1
Enterprise Training Solutions	0	0	1	0		1
lehman	0	1	0	0		1
Marist College	1	0	0	0		1
New Horizons of Albany	1	0	0	0		1
New York School of Esthetics	1	0	0	0		1
Noble Desktop	0	0	1	0		1
Rockland BOCES	1	0	0	0		1
SUNY Empire State College	1	0	0	0		1
Ulster BOCES Adult Career Education Center	1	0	0	0		1
Center for Career Freedom, Inc	0	0	0	0		0
Center for Coaching Mastery at Westchester Community College	0	0	0	0		0
Dental Assistant Training School of the Hudson Valley, LLC	0	0	0	0		0
Dominican College	0	0	0	0		0
Dutchess BOCES Adult Learning Institute	0	0	0	0		0
Kingsborough Community College	0	0	0	0		0
Lincoln Technical Institute	0	0	0	0		0
Monroe College	0	0	0	0		0
Ramapo College of New Jersey	0	0	0	0		0
Ridley-Lowell School of Business, Inc	0	0	0	0		0
Rockland Council on Alcoholism and Drug Dependence, Inc	0	0	0	0		0
	189	109	80	20	5	403

The Westchester County Department of Social Services (DSS) Office of Workforce Investment also provides talent development services. After individuals apply for temporary assistance from DSS programs, including TANF and SNAP, they are screened by an eligibility worker and referred to the DSS Office of Work Activities for orientation. Individuals who can directly enter employment are assisted to do so; individuals that need additional employment support may participate in STRIVE bootcamp to increase job readiness; JobSTAR (in partnership with Westchester Community College) for educational training, assessment, case management, and job placement; community work experience; and other employment related supports. An average of 1,912 TANF participants are required to participate in work activities each month, and an additional 939 TANF participants per month are already engaged in allowable work activities.

ECONOMIC DEVELOPMENT AND INDUSTRY ASSOCIATIONS ARE STRATEGIC AGGREGATORS

Business and industry associations play significant roles in talent development in the region as aggregators of business information and demand for talent as well as program operators and program partners. The Westchester County Association (WCA) serves as the lead organization for Jobs Waiting, a federally funded job readiness program that provides a boot camp and training, resources, incentives,

and placement support to ensure businesses have the talent they need.[31] In addition, the WCA has developed the Workforce Academy to fill the critical need for skilled workers in healthcare, technology, and business sectors.

The Business Council of Westchester is engaged in youth employment issues. In addition, it works with its individual business members to identify, communicate, and address workforce issues, and collaborate with regional stakeholders.   The Business Council, in partnership with the WDB and others, leads private sector summer youth employment programs and a county-wide youth summit that exposes area youth to career information and connects them to employment opportunities.

The manufacturing sector membership association, the Council of Industry, has a strong presence in Dutchess and Rockland County and is extending membership reach into Westchester and Putnam counties. The Council maintains a staff whose responsibility is talent development and represents member interests with area community colleges, technical schools and BOCES facilities. While Westchester and Putnam counties are not densely manufacturing focused areas, the Council plays an important role of linking high wage, high skill jobs to opportunities for area residents. Additionally, The Council of Industry has initiated the Regional Manufacturing Sector Workforce Development Strategy, launched an outreach campaign to expose young people and their parents to career paths available in manufacturing, helped found the New York State Manufacturing Alliance Apprenticeship Program, and partners on the Hudson Valley Pathways Academy and Manufacturing Day.

Local chambers of commerce and regional economic development groups throughout the region cite increased interest and activity from their members related to talent development, such as representing business needs in sector-based workforce efforts. This includes recent interest on the part of the Hudson Valley Gateway Chamber of Commerce to build its staff capacity to address more talent development issues in the region. And, a collaborative of area providers and business organizations in Putnam County, including the Putnam Economic Development Corporation and Putnam area chambers of commerce, have been convening a "red carpet" team to address collaborative workforce and economic development issues in the county.

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[31] The Jobs Waiting grant will run through the first quarters of 2019.

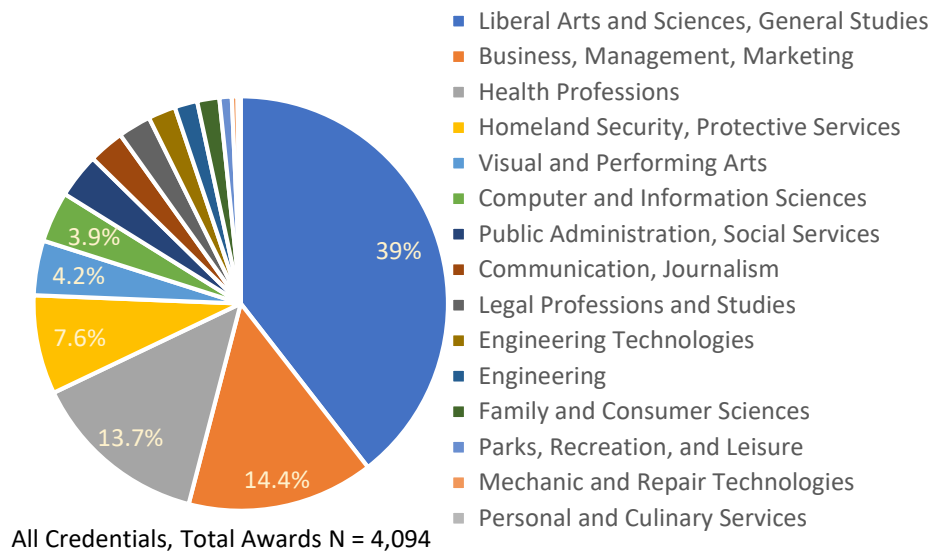**COMMUNITY COLLEGES AND BOCES ARE A CRITICAL ACCESS POINT**

Community colleges are a main access point for postsecondary education for first generation college students, lower-income students, and working adults who want to improve their skills or change employment. These community-facing institutions offer unique capacity to deliver middle-skills occupational education and training to both business and area residents through associate degree programs, academic certificates and industry certifications in high demand fields, non-credit vocational, technical and professional certifications, publicly funded education and training programs for targeted industries, and contract (customized) training for employees of specific companies. They also have the largest capacity to deliver training across the region. In much the same way, the region's two BOCES are significant contributors to the adult talent development system. Both are a uniquely positioned resource in the counties – they appear to be offering substantial numbers of training in the skilled trades and health care where there is significant demand for labor. Moreover, the high proportion of students "self-paying" for training at the BOCES is an indication of quality and customer satisfaction.

CREDENTIAL OUTPUT IS CONCENTRATED IN A FEW SELECT FIELDS

Despite the unique and foundational role of the community colleges, there appears to be a concentration of fields of study that may not reflect the full breadth of capacity needed to meet labor demand. Together, Westchester, Rockland and Dutchess Community Colleges awarded about 4,100 credentials in 2016-2017. Two thirds of the awards are in three fields of study -- liberal arts, business, and health. A substantial proportion of students receiving associate degree awards in liberal arts intend to transfer to baccalaureate programs. While both business and health are in high demand, there is limited range and number of credentials awarded in other fields, such as engineering technology and biomedical sciences. There may be opportunities to build capacity, and student and employer demand, in other fields important to the economic development priorities of the region. (See **Figure 21**.)

Figure 21 Liberal Arts, Business, and Health Professions Dominate Postsecondary Credentials

Total Credential Awards 2016, by Field of Study, for Selected Subbaccalaureate Postsecondary Institutions Serving Westchester and Putnam Counties.

All Credentials, Total Awards N = 4,094

- Liberal Arts and Sciences, General Studies
- Business, Management, Marketing
- Health Professions
- Homeland Security, Protective Services
- Visual and Performing Arts
- Computer and Information Sciences
- Public Administration, Social Services
- Communication, Journalism
- Legal Professions and Studies
- Engineering Technologies
- Engineering
- Family and Consumer Sciences
- Parks, Recreation, and Leisure
- Mechanic and Repair Technologies
- Personal and Culinary Services

Source: NCES, IPEDS, 2016 Completions, 7 Institutions (3 Community Colleges, 4 BOCES*: Serving Westchester, Dutchess, Putnam and Rockland Counties. * Only BOCES-LPN program graduates are reported here.

DATA SYSTEMS AND SYSTEMWIDE COHESION IS LIMITING EFFECTIVE COLLABORATION

At present, it appears existing data systems limit the ability to accurately summarize talent development data across providers or funding sources. It is difficult to determine training and credential output among education and training service providers. Data collection varies by requirements of funding sources and that variation often does not allow summary data—such as the total number of people completing a program or obtaining employment—to be easily aggregated or understood. The same appears to be true for data collected on meaningful business metrics, including levels of employer engagement and satisfaction. Overall, it does not appear there is a collective or even partial assessment of the outcomes or impact of the variety of programs and approaches in the region.

In addition, there appears to be a complex matrix of small, similar and competing education and training services in the region. At times similar and duplicative services can be advantageous to local groups, whether it is jobs seekers or employers looking for workers. Variety gives choice to both. And, competition can spur innovation and new approaches as each agency or institution tries to compete for job seekers or employers. At the same time, an unknown proportion of the overlap or competition may be due to lack of incentive for coordination and a lack of communication among agencies and funders about priorities, strategic intervention, and responsiveness to broad communities. Responses among

participants in the community workshop and interviews also point to the need for less duplication and more collaborative service delivery, where appropriate.

DEEPER EMPLOYER ENGAGEMENT IS NEEDED

There are a variety of employer-engagement activities in the talent development system, from one-off job placements and, for example, an internship program built with individual businesses, to ongoing coordination of business advisory groups that are formed to guide curriculum development among training providers. Like many regions, most of these employer activities operate in multiple "islands" of engagement with little or no consistency of engagement or aggregation of the employer voice. Interviews with leaders in the workforce education field and workshop participants note the talent development system needs stronger, deeper and more strategic engagement with the demand side of the talent development spectrum. Opportunities exist to work with business and industry associations that already act as intermediaries for the business voice in the region, such as Westchester County Association, Business Council of Westchester, or Council of Industry and through new groups forming like the industry sector partnerships through the Westchester Putnam Workforce Development Board.

STRENGTHENED FUNDER COORDINATION IS AN EMERGING INTEREST

As has happened in many other regions, some funders in Westchester and Putnam recognize that there are opportunities to strengthen coordination and leverage each other's investments to create deeper and sustained impact for economic opportunity through a strategic focus on talent development. These conversations appear to be in the "pioneering" stages, with Westchester Community Foundation and others joining to assess new ways to cooperate and foster partnerships with communities. Continued funder dialogue can help identify opportunity to leverage existing strengths, increase funding efficiency, and support greater impact for workers and employers alike.

COMMUNITY VISION AND PRIORITIES

On July 10, 2018, leaders from philanthropy, government, business, and talent and economic development participated in a community workshop initiated by the Westchester Community Foundation[32]. The first part of the workshop focused on discussion of the current workforce and demographic context in the region. Then, through a facilitated process, workshop participants were asked to consider the focus question *What does an effective workforce system for the region look like?* The participants were asked to answer this focus question with different perspectives in mind, including:

- **An economic development perspective** (how does a talent development system meet business and economic development priorities)
- **A talent development perspective** (how does a talent development system meet resident and worker priorities)
- **An asset-based perspective** (how does a talent development system maintain and build on current service, education and training assets)

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[32] See Appendix H for a list of workshop participants.

- **An opportunity perspective** (how does a talent development system build new opportunities and achieve new aspirations).

Workshop participants recognized innovative and effective pockets of talent development activity already occurring in the region as well as opportunities for improvement. Participants also identified five key pillars that frame what an effective talent development system could look like in Westchester and Putnam Counties. The five pillars include:

- Inspired Youth Engagement
- Responsive, Proactive Training
- Holistic, Customer-Centric, and Barrier-Busting Service
- Market-Led Employer Engagement
- A Powerful, Strategic, and Data-Driven Ecosystem

Together, these pillars can be grouped into three focus strategies: robust service delivery (inspired youth engagement; responsive, proactive training; holistic, customer-centric, and barrier-busting service); employer engagement (market-led employer engagement); and system development (a powerful, strategic, and data-drive ecosystem). These strategies can help focus next steps and initial implementation targets.

Below is a summary of the participant's answers as part of the consensus building workshop.

What does an effective workforce system for the region look like? Five priority themes emerged through consensus building workshop on July 10, 2018 by leaders from key business associations, education institutions, talent development intermediaries, philanthropy, and government in Westchester and Putnam counties.

Inspired Youth Engagement	Responsive, Proactive Training	Holistic, Customer-Centric and Barrier-Busting Service	Market-Led Employer Engagement	Powerful, strategic, and data-driven ecosystem
• Early youth education about trending industries/career pathways • Include early education for future work-force (K-12) • More opportunities for practical experience for youth (internships/apprenticeships) • Pipeline to opportunities and growth • "Grow our own"—local talent for future growth	• Embedded foundational skills for greater access (Reading, Math, ESL) • Blended learning • Job readiness training • Specific training for available jobs • Job readiness and life-long learning: matching soft skills with jobs skills • Maintaining soft skill training • Maximize Potential of foreign-born—ESL, recertification • Tool box of approaches, different levels of training, opportunities, level depending on entry level versus middle skills versus professional versus underserved, etc. • Focus: proactively train for high impact	• Address barriers and fund support: transportation, citizenship, childcare, housing • Genuine partnership with social service providers • Skilled/knowledgeable teams of staff • Connected to strong support services • Utilize the talent available for workers in transition (mature workers) • Awareness of resources available: outreach, P.R. connectors • Assess customer input/barriers	• Close information partnership gaps (between business, CBOS, education) • Create better awareness for employers of education and programs (current and potential) • Fullest employer "buy-in" and participation • Expand outreach to employer (marketing) • Develop better understanding of employer needs	• Closer collaboration between economic development and workforce development • Responsive to employer needs and job seeker needs • Address the regional nature of workforce development • Expand outreach to workers (marketing) • Linking/Funding: business development, education (9+), economic development, workforce development • Streamlining, public/private partnerships • Develop a culture of connection between economic development and talent development • Elimination of duplication of services • Accurate data including open jobs, skills, seekers (match supply and demand) • Document outcomes: benchmarks, data, revisit and course correct, build on success (not starting over again) • Support for entrepreneurship
Current level of development across the system: 2 out of 5	Current level of development across the system: 3 out of 5	Current level of development across the system: 2 out of 5	Current level of development across the system: 2 out of 5	Current level of development across the system: 2 out of 5
Number of priority votes: 4	Number of priority votes: 4	Number of priority votes: 3	Number of priority votes: 8	Number of priority votes: 11

Workshop participants also rated the region's current state of effectiveness across each pillar using a 5-point scale, from a rating of 1 being least effective to 5 being most effective. Except for "Responsive, Proactive Training," which received a rating of 3, the other pillars received a self-rating of 2.   In addition to a self-rating on current effectiveness, participants prioritized the most important "pillars" of the framework, with the top two pillars in bold below:

- **A Powerful, Strategic, and Data-Driven Ecosystem** (11 votes)
- **Market-Led Employer Engagement** (8 votes)
- Inspiring Youth Engagement (4 votes)
- Responsive, Proactive Training (4 votes)
- Holistic, Customer-Centric, and Barrier-Busting Service (3 votes)

BUILDING AN ECOSYSTEM FOR TALENT DEVELOPMENT

Westchester and Putnam county leaders from philanthropy, government, business, and talent and economic development identified a powerful, strategic, and data-driven talent development ecosystem as a top priority for the region. Leaders identified the following characteristics as important to the system:

- works toward closer collaboration between economic development and talent development that is responsive to employer and job seeker needs,
- addresses the regional nature of talent development,
- links and reduces redundancy among talent development providers and programs,
- builds a culture of collaboration across non-profit, business, philanthropic and governmental sectors, and
- uses data to identify opportunities in the labor market as well as to evaluate, learn and strengthen system responses.

A systems level approach to talent development in Westchester Putnam can facilitate strategic decision-making to coalesce, support and strengthen isolated activities into region-wide responses. This coordinated approach can achieve greater goals for resident, business, and economic development priorities.

Below is a path forward for the Westchester Community Foundation, in partnership with the community, to begin planning for and building a powerful strategic data-driven ecosystem for talent development.

BUILDING A REGIONAL COLLABORATIVE FOCUSED ON TALENT DEVELOPMENT SYSTEMS

Funding and community partners join in regional collaboratives for the purpose of building a shared vision of talent development strategy and investment priorities. Regional collaboratives focus on

aligning area resources across philanthropy, government, education, and business interests for improved worker and employer outcomes and achieving systems goals.

Regional collaboratives of funding and community partners take many forms. Sometimes the locus of leadership is solely funders from private and corporate philanthropy who want to align or pool their funding for more efficient and effective investment in demand-driven workforce projects, job-training initiatives, or other priorities. Other times the locus of leadership is a combination of philanthropy, workforce intermediaries (such as workforce boards), and employers and industry associations who combine funding, resources, and civic capacity for improved regional systems approaches in talent development. Other partners who may be involved are government agencies and funders, labor unions and worker groups, college foundations, and education and training providers.

The major goals of regional collaboratives are to:

- connect partners toward a common cause and bridge gaps between philanthropy, government, education, and business;
- develop targeted interventions in education and training and labor markets to achieve the common cause (or vision);
- develop industry partnerships that establish close relationships with employers to identify industry and occupational training needs and develop training resources, while simultaneously creating opportunities for employment and career opportunities for lower income/underserved/less-skilled workers;
- identify and generate systems change (in institutions, employer practices, policy) to build economic security for employees, meet employer skill demands, and remove barriers that get in the way of training and labor market success for residents;
- develop employer leaders who advocate for talent development within their companies and across the region; and
- support local capacity building and disseminate best practices to communities, funders, employers and policy-makers.

Experiences across the country show that building a collaborative and systems level approach to regional talent development is an iterative process that doesn't mature within six months or even a year. It takes time and patience, with small steps that lead to a shared vision, perhaps some early short-term wins that build trust, planning and aligned funding that leads to more mutually reinforcing activities, and eventual progress and shared measurement toward articulated regional goals. Experiences in other regions also suggest a collaborative and systems level effort doesn't have to bring every potential funder or community partner under one vision or umbrella from the start. Collaboration can start with a coalition of the willing and build broader engagement through earned trust and demonstrated success.[33]

Below is a framework for the Westchester Community Foundation and its partners to begin planning for and building a collaborative, system level response to the region's talent development needs.

Previous research completed by the authors of this report identified key strategies of highly effective collaboratives:

- *Convene a broad range of funders and partners to leverage each other's interests*
- *Operate with a clear and compelling purpose*
- *Establish and support industry partnerships that meet employer needs*
- *Focus on long-term interests of low-wage, low-skill individuals*
- *Generate systems change*
- *Work under strong management*
- *Advocate for evidence-based decision-making*
- *Communicate effectively*
- *Ensure sustainability*

A FRAMEWORK TO BEGIN

The Westchester Community Foundation has taken initial steps to establish a regional collaborative that engages stakeholders in the development of an effective talent development system for the region.

Next steps include reaffirming initiative purpose, identifying the collaborative structure, engaging partners, establishing a collective strategic plan, and identifying initial pilot opportunities that leverage momentum and reflect collaborative strategy. In this section, we propose a potential sequence for translating the growing synergy among stakeholders into collective action.

REAFFIRM PURPOSE OF WCF TALENT DEVELOPMENT FOCUS

As the Westchester Community Foundation (WCF) considers its role in the regional talent development conversation, it may be useful first to conduct an internal identification or reaffirmation of the underlying purpose of WCF's talent development focus. Questions to consider include:

- What is the goal of WCF talent development efforts? What internal objectives drive this effort within WCF?

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[33] See Baran, Giordano, Lodewick, Michon, Teegarden, "National Evaluation of the National Fund for Workforce Solutions," 2014.

- How can WCF best leverage its role as a community foundation within the talent development landscape?
- What role in the broader regional effort is WCF best equipped to play and most interested in engaging with others?

This conversation can help the WCF to best identify and reaffirm its role in broader efforts and target actions and align investment with organizational priorities.

IDENTIFY REGIONAL COLLABORATIVE STRUCTURE

Over the past six months, WCF has been identifying regional stakeholders with a shared mission of advancing workers' interests and meeting employer needs. Many of these organizations and individuals were present at the July 10, 2018 Community Workshop that established an initial collective vision for talent development in the region. This report and the interests expressed through the community workshop should inform early decisions regarding the purpose, structure, and format of a proposed collaborative.

Incourage Community Foundation in Wisconsin leads the regional Workforce Central talent development collaborative. As a foundation, Incourage had the budgetary flexibility to hire and devote expert staff to the time-intensive task of pursuing systems change, such as stakeholder engagement, knowledge transfer, prototype development, convening, and advocacy. These systems change tasks are often difficult to support through traditional funding streams, and foundations can support needed innovation and capacity in this area.

As noted above, some talent development collaboratives serve chiefly as funding collaboratives, comprised primarily of philanthropic or government agencies with direct resources to bear. Other collaboratives adopt a broader membership, including providers, intermediaries, and employers, to support informed funding decisions and increase systems change. Foundations have a critical role to play in these efforts under either collaborative model. One of the unique propositions that foundations bring to a collaborative is their ability to fund system change efforts that go beyond individual interventions.

In addition to philanthropic and other funders, finding a role for business and industry associations in the governance and/or support of the regional collaborative can be important. One of the benefits of formalizing business participation, through individual businesses or business associations, is that businesses can provide real-time insight on talent development needs and direction. They can also be good strategic problem-solvers and, at times, they can become funders.   Depending on the collaborative structure, businesses may serve as members of the collaborative, or as strategic partners to inform and soundboard funding and implementation decisions.

Workforce Central, a collaborative of regional funders in Wisconsin Rapids, discussed the benefit of executive-level engagement in moving the collaborative forward: "Workforce Central valued the active engagement of decision-makers. The ability to speak for the organization and commit resources hastened the implementation process…Donors also viewed financial commitment by employers as critical to Workforce Central's future, sending a strong signal about the importance of workforce development in the community."

WCF and its partners may want to go deeper in exploring the relationships among potential funders and partners in the collaborative. One way to do this is to map out the potential partners and their connection (close or distant) to the work by recording the results of a "stakeholder analysis" in a table like the one presented in **Figure 22**.[34]

Figure 22 Stakeholder Analysis Can Inform Collaborative Development

Sample Stakeholder Analysis Planning Tool

Actor	Interest/Overlap with our Work	Current Relationship to Collaborative & Factors that Influence the Relationship	Desired Relationship to the Collaborative	Next Steps
Charitable Foundation				
Corporate Foundation				
Local WDB				

[34] Adapted from Loh-Sze Leung and Lisa Soricone, "Sustainability Guide for Funder Collaboratives," National Fund for Workforce Solutions, 2016.

County/municipal government				
Business association				
Individual business				
Other funder, Etc.				

There are several other resources that provide guidance on developing robust collaborative membership. One of these is "A Pocket Guide for Business Leaders: Find, Train, and Keep Productive Employees Through Alliances in Your Community." [35] The following questions from the guide could be added to deepen the stakeholder engagement analysis:

- Does the potential partner organization have a stake in the problem you want to address and a willingness to share ownership of the solution?
- Does the potential partner share your values and level of concern over the problems your collaborative aims to address?
- Does the potential partner have a level of credibility and legitimacy in the philanthropic community, talent development, or other related domain?
- Is the potential partner willing to invest staff and resources in the collaborative?
- Is the potential partner organization in good financial and organizational health, and do they have a proven track record?
- Does the potential partner have committed leaders who can articulate your shared vision, build a constituency, and manage these joint efforts?
- What does the potential partner expect from participation in the collaborative? Can you and the collaborative fulfill these expectations?

Finally, when ready to establish a more formal structure to these relationships, experience from the National Fund for Workforce Solutions collaboratives highlights the following recommendations for identifying and developing collaborative membership:

- Collaborative partners should identify a clear purpose for their collaborative effort, shared goals for their work, and joint ownership of solutions.
- Collaborative leaders must foster an environment that demonstrates value for both the broader community and the partner organizations.

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[35] Adapted by the National Fund for Workforce Solutions from "A Pocket Guide for Business Leaders: Find, Train, & Keep Productive Employees Through Alliances in Your Community" as presented in the "Sustainability Guide for Funder Collaboratives," by Loh-Sze Leung and Lisa Soricone, National Fund for Workforce Solutions, 2016.

- Organizational missions should align with the collaborative vision.
- Partner organizations should represent multiple perspectives on workforce issues.
- Individuals that attend meetings should have a sufficient level of influence within their organizations to help dedicate resources and mobilize professional networks that support collaborative work.

ESTABLISH A STRATEGIC PLAN

Collaborative members can work collectively to establish a strategic plan that provides funding guidance and implementation direction. Strategic planning activities can include a streamlined process to identify what is working well, envision the future, and design a framework and processes for action. For example, a brief needs gap analysis can identify current system strengths and new opportunities for innovation.

- What is working well? How do these successes fit in the collection vision? How can the system support and/or expand these successes?
- Where are service or strategy gaps? Who is best to respond to the identified gaps? What next steps will support progress?

In addition, development of a theory of change or logic model can articulate the underlying framework and ensure stakeholder alignment. This articulation of the program strategy can help funders determine investment priorities and align service resources.

IDENTIFY PILOT INITIATIVES

Developing an effective talent development ecosystem is long-game endeavor; the strategic planning process, too, is an ongoing, iterative process that benefits from periodic reaffirmation or refinement. Despite these long-term milestones, talent development priorities require immediate, active, and responsive resources. Based on existing stakeholder feedback from the July 10, 2018 Community Workshop, as well as forthcoming needs gap or strategic planning activities, stakeholders can identify key talent development priorities for first response. These may be efforts that can quickly galvanize momentum and serve as proof of concept for longer-term collaborative initiatives.

For example, findings from the labor market analysis may provide geographic or demographic targets for increased service access or delivery. Or which industries, occupational groups, or structures in the labor market are best to target. Similarly, talent development components identified during the workshop, such as Inspired Youth Engagement or Market-Led Employer Engagement, may guide identification and

The primary focus strategies developed during the July 10, 2018 Community Workshop—robust service delivery, employer engagement, and system development—offer useful targets to direct goals for identified pilot initiatives.

scaling of nascent efforts in the region into tangible pilot projects. These early pilot initiatives can help

maintain stakeholder energy and provide early successes that both inform and inspire continued collaborative strategy.

TIMELINE

While establishing partner relationships and ongoing collaborative structure takes time, it can help to break the process down into actionable steps that maintain momentum. The following timeline provides a sample of immediate activities that the Westchester Community Foundation may consider at it moves forward.

Months 1 to 3

- **Review vision articulated in July 10, 2018 Community Workshop**: Refine/confirm consensus around collective vision with emerging collaborative stakeholders.
- **Review completed Building Opportunity and Growth report with emerging collaborative stakeholders**: Discuss implications of labor market opportunities and current employment and training context on broader talent development effort. Are there any surprise findings? How does this inform regional talent development strategy? What broad themes or challenges emerge? What additional information is needed to determine next steps?

Months 4 to 6

- **Identify collaborative structure**: How will the collaborative be structured? Who should be at the table? What are the roles?
- **Identify collaborative partners**: Building on the initial community scan, identify strategic partners that share vision, represent diverse perspectives, and are ready to contribute resources to collective talent development efforts.

Months 6 to 12

- **Develop strategic plan**: Conduct streamlined strategic needs gap analysis and/or logic model development to guide collaborative strategy.
- **Identify pilot initiatives, roles, and responsibilities**: Identify natural proof of concept pilot efforts that galvanize collaborative momentum and address collective priorities.
- **Establish pilot initiative implementation mechanics**: Identify funding, governance, procurement, reporting, and data collection processes.
- **Maintain ongoing synergy**: Establish framework for ongoing collaboration and collective processes over time.

APPENDIX A: MUNICIPALITIES OF WESTCHESTER COUNTY AND PUTNAM COUNTY

Westchester County, New York

The six designated cities and 19 towns utilized in this report and listed for Westchester County, as defined by the US Census Bureau, include:

Bedford town, Westchester County, New York
Cortlandt town, Westchester County, New York
Eastchester town, Westchester County, New York
Greenburgh town, Westchester County, New York
Harrison town, Westchester County, New York
Lewisboro town, Westchester County, New York
Mamaroneck town, Westchester County, New York
Mount Kisco town, Westchester County, New York
Mount Pleasant town, Westchester County, New York
Mount Vernon city, Westchester County, New York
New Castle town, Westchester County, New York
New Rochelle city, Westchester County, New York
North Castle town, Westchester County, New York
North Salem town, Westchester County, New York
Ossining town, Westchester County, New York
Peekskill city, Westchester County, New York
Pelham town, Westchester County, New York
Pound Ridge town, Westchester County, New York
Rye city, Westchester County, New York
Rye town, Westchester County, New York
Scarsdale town, Westchester County, New York
Somers town, Westchester County, New York
White Plains city, Westchester County, New York
Yonkers city, Westchester County, New York
Yorktown town, Westchester County, New York

For a full list of the villages within each of the municipalities see
https://en.wikipedia.org/wiki/Municipalities_in_Westchester_County

Putnam County

The six towns utilized in this report and listed for Putnam County, as defined by the US Census Bureau, include:

Carmel town, Putnam County, New York
Kent town, Putnam County, New York
Patterson town, Putnam County, New York
Philipstown town, Putnam County, New York
Putnam Valley town, Putnam County, New York
Southeast town, Putnam County, New York

For a full list of the villages within each of the municipalities see

https://en.wikipedia.org/wiki/Putnam_County,_New_York#Communities

Local Area Unemployment Statistics, May 2018

	Labor Force	Employed	Unemployed	Unemployment Rate (%)
Westchester County	482,500	464,300	18,300	3.8
Putnam County	51,400	49,600	1,800	3.5
Mount Vernon	33,300	31,500	1,800	5.4
Yonkers	95,400	91,100	4,200	4.4
New Rochelle	38,900	37,400	1,500	3.9
Eastchester	16,100	15,600	600	3.7
Harrison	13,400	12,900	500	3.7
Mamaroneck	14,800	14,300	500	3.6
Greenburgh	48,900	47,200	1,700	3.5
Ossining	19,500	18,800	700	3.5
Carmel	17,700	17,100	600	3.4
Cortlandt	21,700	21,000	700	3.3
White Plains	32,000	31,000	1,100	3.3
Yorktown	18,300	17,700	600	3.3
Mount Pleasant	21,900	21,200	700	3.2
Rye	25,100	24,300	700	2.9
Port Chester	16,700	16,200	500	2.8

Source: NYSDOL, LAUS, 2018

Primary Sources and Limits of the Data

Industry and Occupational Employment. These are jobs as reported by businesses and collected through national employment statistics programs. The primary source of industry and occupational employment data in this report is EMSI's collection and aggregation of the Bureau of Labor Statistics national employment statistics program called Quarterly Census of Employment and Wages (QCEW). QCEW is the standard governmental program that reports employment data for regions and states across the country. EMSI is a subscription-based service that compiles and aggregates governmental and other statistics for use in economic analysis. EMSI supplements the QCEW data with self-employed estimates derived from the US Census Bureau Non-employer Statistics and County Business Patterns. The data for this report is from EMSI's 2018.2 data set.

Employment Projections. Projections in employment are based on national industry projections (BLS national employment projections) as well as state and regional projections provided by state labor market organizations. EMSI also benchmarks these projections based on short-, mid-, and long-term trend lines for every industry and county based on historical data. Demand projections are based on the trends and forecast that researchers from the Bureau of Labor Statistics consider will likely happen to the labor force, aggregate economy, final demand (GDP) by consuming sector and product, industry output, industry employment, and employment and openings by occupation. Furthermore, it is important to note that data projections are not based on a pre-destined outcome. The future is ever changing, and economic, demographic and policy changes can have an impact on what happens to demand jobs and supply of educated talent in an economy. For example, most forecasts made prior to the Great Recession did not come to fruition as the sudden downturn in the economy had major impacts across many economic and social dimensions.

Job Openings. Job openings are defined by the Bureau of Labor Statistics as openings due to (1) new jobs created by expanding companies, (2) workers exiting the workforce (retirements, discouraged workers, or parents halting their participation in the labor force to be with their children, etc.), and (3) workers permanently leaving an occupation, but staying in the workforce. Job openings do not include workers simply switching jobs within an occupation.

Labor Force. Data on county and municipal level labor force statistics (total number of residents in the labor force, number of employed and unemployed residents, unemployment rates) are from the New York State Department of Labor Local Area Unemployment Statistics program for municipalities with 25,000 resident or more. We use the US Census American Community Survey 5-year Estimates to show consistent, comparable data on the labor force for all cities and towns regardless of population size (e.g. to include labor force data on cities and towns with under 25,000 residents that would otherwise not show up in the NYSDOL data). See more on the methodology, benefits, and limitations of the US Census American Community Survey in the Demographics and Income paragraph below.

Demographics and Income. The main source for the demographic and income data is from the US Census American Community Survey 5-year Estimates. While these are one of the most comprehensive and trusted sources for resident-based data, there are still some limits. Because the US Census uses a

survey and model to update its benchmarks from the Decennial Census for these data, there can be wider margins of error for data when looking across multiple variables within one data set (e.g. looking at race/ethnicity by educational attainment) and for smaller geographies, such as towns with smaller populations, that reduce sample size. We use the American Community Survey's 5-year Estimates data whenever possible to increase the confidence levels (reduce the margin of error) for the data. A full explanation of the methodology and benefits and limits to American Community Survey can be found at https://www.census.gov/programs-surveys/acs/technical-documentation.html

Industry and Occupation

An industry is a group of business establishments that produce similar products or provide similar services. For a complete list of industry classifications see the North American Industry Classification System at https://www.census.gov/eos/www/naics/.

An occupation is a position in which a person works. Employees who perform essentially the same tasks are in the same occupation. Occupations can cross different industries. For example, an IT specialist (occupation) or even a building cleaner (occupation) can work in financial services, manufacturing, education, or health care (all industries). For a complete list of occupational classifications see the Bureau of Labor Statistics May 2017 Occupation Profiles at https://www.bls.gov/oes/current/oes_stru.htm.

MIT's Living Wage Calculator Expense and Living Wage Calculations, 2017

Annual Expenses	Westchester County		Putnam County	
	1 Adult	1 Adult 1 Child	1 Adult	1 Adult 1 Child
Food	$3,467	$5,103	$3,467	$5,103
Child Care	$0	$10,536	$0	$10,536
Medical	$2,367	$6,674	$2,367	$6,674
Housing	$14,352	$20,472	$16,224	$19,644
Transportation	$3,609	$7,457	$3,609	$7,457
Other	$2,656	$4,294	$2,656	$4,294
Required annual income after taxes	$26,450	$54,536	$28,322	$53,708
Annual taxes	$4,978	$10,599	$5,239	$10,484
Required annual income before taxes	$31,428	$65,135	$33,561	$64,192
Living Wage (Hourly)	$15.11	$31.32	$16.14	$30.86

Source: Dr. Amy K. Glasmeier, MIT Living Wage Calculator, Massachusetts Institute of Technology, accessed September 2018.

APPENDIX E: OPPORTUNITY OCCUPATIONS JOBS AND OPENINGS

Opportunity Occupations Jobs and Openings

Engineering Technicians	2018 Jobs	2028 Jobs	2018 - 2028 Job Change	2018 - 2028 % Job Change	2018 - 2028 Job Openings
Aerospace Engineering and Operations Technicians	96	101	5	5.2%	89
Civil Engineering Technicians	88	96	8	9.1%	87
Electrical and Electronics Engineering Technicians	238	233	-5	-2.1%	202
Environmental Engineering Technicians	61	65	4	6.6%	58
Industrial Engineering Technicians	79	78	-1	-1.3%	67
Mechanical Engineering Technicians	51	56	5	9.8%	50
Engineering Technicians, Other	103	109	6	5.8%	96
Totals	717	738	22	3.0%	649
Information Technology Group	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Web Developers	437	451	14	3%	322
Computer User Support Specialists	1,602	1,555	-47	-3%	1,159
Computer Network Support Specialists	427	396	-31	-7%	300
Totals	2,465	2,402	-64	-2.6%	1,781
Life Science and Lab Technicians	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Chemical Technicians	254	268	14	5.5%	255
Environmental Science and Protection Technicians, I	152	159	7	4.6%	186
Life, Physical, and Social Science Technicians, All O	307	323	16	5.2%	379
Medical and Clinical Laboratory Technicians	432	507	75	17%	362
Totals	1,144	1,257	112	9.8%	1,181
Legal Assistants	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Paralegals and Legal Assistants	892	1,005	113	13%	1,060
Court Reporters	62	60	-2	-3.2%	50
Legal Support Workers, Other	97	100	3	3.1%	83
Totals	1,052	1,165	114	10.7%	1,192
Health Technicians	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Cardiovascular Technologists and Technicians	164	206	42	25.6%	137
Diagnostic Medical Sonographers	265	330	65	24.5%	216
Radiologic Technologists	685	773	88	12.8%	461
Magnetic Resonance Imaging Technologists	80	92	12	15.0%	56
Emergency Medical Technicians and Paramedics	946	1,269	323	34.1%	982
Psychiatric Technicians	149	154	5	3.4%	121
Surgical Technologists	340	405	65	19.1%	353
Veterinary Technologists and Technicians	401	486	85	21.2%	428
Ophthalmic Medical Technicians	102	130	28	27.5%	118
Health Technologists and Technicians, All Other	277	354	77	27.8%	269
Totals	3,410	4,200	790	23.2%	3,141
Medical Assistants	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Dental Assistants	1,521	1,702	181	11.9%	1,919
Medical Assistants	1,818	2,254	436	24.0%	2,569
Medical Transcriptionists	62	67	5	8.1%	80
Totals	3,401	4,023	622	18.3%	4,568
Bookkeeping and Accounting Clerks	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Bookkeeping, Accounting, and Auditing Clerks	4,868	4,529	-339	-7%	5,175
Human Resources Assistants	476	465	-11	-2.3%	515
Totals	5,344	4,994	-350	-6.5%	5,689
Truck, Auto and HVAC	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Automotive Service Technicians and Mechanics	2,384	2,644	260	11%	2,578
Heating, Air Conditioning, and Refrigeration Mechani	1,019	1,174	155	15.2%	1,199
Heavy and Tractor-Trailer Truck Drivers	2,099	2,293	194	9%	2,506
Totals	5,503	6,111	609	11.1%	6,283
Construction Trades	2018 Jobs	2028 Jobs	2018 - 2028 Change	2018 - 2028 % Change	2018 - 2028 Openings
Carpenters	3,643	4,164	521	14%	4,040
Electricians	2,618	3,013	395	15%	3,467
Plumbers, Pipefitters, and Steamfitters	2,102	2,288	186	9%	2,448
First-Line Supervisors of Construction Trades	1,696	1,994	298	18%	2,052
Construction Equipment Operators and Engineers	686	810	124	18%	932
Sheet Metal Workers	495	524	29	6%	554
Structural Iron and Steel Workers	439	438	(1)	(0%)	456
Hazardous Materials Removal Workers	313	330	17	5%	398
Totals	11,992	13,560	1,569	1	14,347

APPENDIX F: POSTSECONDARY INSTITUTIONS INCLUDED IN ANALYSIS

Postsecondary institutions included in the compilation of academic credentials awarded in a 20-mile radius are drawn from those eligible to dispense student financial aid. Not included are very small, single program schools, theological schools, and selected large private universities that primarily serve a national student market.

Boricua College
College of Mount Saint Vincent
Concordia College-New York
CUNY Bronx Community College
CUNY Hostos Community College
CUNY Queensborough Community College
Dominican College of Blauvelt
Dutchess BOCES-Practical Nursing Program
Dutchess Community College
Helene Fuld College of Nursing
Iona College
Lincoln Technical Institute-Whitestone
LIU Post
Long Island Business Institute
Manhattan College
Mercy College
Monroe College
Mount Saint Mary College
New York Institute of Technology
New York Medical Career Training Center
Nyack College
Putnam Westchester BOCES-Practical Nursing Program
Ridley-Lowell Business & Technical Institute-Poughkeepsie
Rockland Community College
Rockland County BOCES-Practical Nursing Program
Southern Westchester BOCES-Practical Nursing Program
St. Thomas Aquinas College
SUNY at Purchase College
SUNY College at Old Westbury
SUNY Maritime College
SUNY Westchester Community College
The College of New Rochelle
The College of Westchester
Vaughn College of Aeronautics and Technology
Westchester School for Dental Assistant
Western Suffolk BOCES

APPENDIX G: PROGRAM COMPLETION DETAIL

SUNY Westchester Community College Program Completions, 2015-2016 Academic Year

Fields of Study	One- to two-year Certificate	Associate Degree	Totals
Liberal Arts, General Studies, Humanities		718	718
Business Management Marketing and Related	7	292	299
Health Professions and Related	60	106	166
Homeland Security, Related Protective Services		116	116
Visual and Performing Arts	5	80	85
Computer and Information Sciences, Support	19	62	81
Engineering Technologies	14	47	61
Public Administration and Social Services	1	60	61
Family and Consumer Sciences	5	46	51
Legal Professions and Studies	30	20	50
Engineering		40	40
Communication, Journalism		39	39
Personal and Culinary Services		9	9
Natural Resources and Conservation		7	7
Education	7		7
Science Technologies/Technicians		3	3
Parks, Recreation, Leisure and Fitness	1		1
Totals	149	1645	1794

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

Southern Westchester BOCES Adult Technical Education Programs, 2016-2017

Course/Program Occupational Area	Enrollments	Completions
Healthcare	397	283
Computer Operations and Literacy	88	78
Skilled Trades (Construction or Other)	1148	1116
ESOL (on campus and other locations)	1451	NA

Source: Southern Westchester BOCES response to data request, July 2018.

Putnam/Northern Westchester BOCES Division of Workforce Development and Community Education, 2016-2017

Course/Program Occupational Area		
	Enrollments	Completions
Healthcare	120	110
Business and Professional	60	57
IT or Electronic Technology	15	12
Skilled Trades (Construction or Other)	60	60
ESOL (on campus and other locations)	2000	2000
Other (Hospitality, Safety)	40	38
Source: Putnam/Northern Westchester BOCES response to data request, August 2018.		

APPENDIX H: LIST OF PARTICIPANTS IN JULY 10, 2018 COMMUNITY WORKSHOP

Amy Allen, Westchester County Association

Jason Chapin, Westchester County Association

Aleida Federico, TD Bank

Marsha Gordon, Business Council of Westchester

Johnnieanne Hansen, Council of Industry

Harold King, Council of Industry

Thom Kleiner, Westchester Putnam Workforce Development Board

Robin Melen, Westchester Community Foundation

Deb Milone, Hudson Valley Gateway Chamber of Comm (Peekskill)

George Oros, Hudson Valley Gateway Chamber of Comm (Peekskill)

Linda Puoplo, White Plains Education and Training Center

Laura Rossi, Westchester Community Foundation

Emily Saltzman, Westchester County

Tara Seeley, Westchester Community Foundation

Ebony White, Business Council of Westchester

Teresita Wisell, Westchester Community College

Caroline Wolcott, Westhab

OJ Yizar, Westchester Putnam Workforce Development Board