

# PRINCE GEORGE'S COUNTY STATE OF THE WORKFORCE

APRIL 2019

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# INTRODUCTION

This State of the Workforce report analyzes the types of occupations and skills Prince George's County residents have to offer businesses and industry, and what employers are looking for in the workforce.

Section I provides an overview of Prince George's County demographic trends that lay the groundwork to better understand the county's resident workforce and appreciate the skills they have to offer. Education data, both K-12 and higher education, is presented in Section II and are critical in identifying gaps and opportunities that are essential in building the workforce of tomorrow.

Section III further analyzes how efficient the labor and economy work synergistically together. The strength of Prince George's County labor force shines brightly in this section as job growth is able to keep up with the highly productive labor force. Wage and compensation data are analyzed and compared to surrounding counties around the region. Such data help businesses gain a better understanding of the market and ways to address talent shortages. Commuting patterns are also identified in this section. Such data allow communities to understand which occupations and skills are entering and leaving the area for work. These data show the opportunities in the untapped segments of the labor pool.

Business discussion groups were conducted for the main industries identified by the Prince George's County Workforce Development Board. Most industries can be summed up in the broad summary of the group discussions.



# DEMOGRAPHIC PROFILE

The demographics of a region affect the size and composition of the labor force and its overall economy, and vice versa. Stagnant population growth can weaken its economic base and create skill shortages. The patterns described below directly impact labor force trends, particularly labor force participation rates (see Section III).

## **Population Trends**

Prince George's County is home to more than 920,000 residents and has been growing less than one percent a year over the past decade. While the population is relatively younger than the rest of the state and nation, it is growing older as well.

The rate of growth in population of Prince George's County, the state of Maryland, and the nation have risen at a similar rate over the past decade. As presented in Table 1.1 and Figure 1.1, the pace of growth in population has slowed slightly in all three geographies since 2013.

Population growth in the Prince George's County area was led by the City of Bowie and the town of Capitol Heights, both growing at a rate of roughly 4% over the last five years. The demographics of the growing population in these two areas are working-age black and Hispanic adults. Some of the population growth in other areas

#### TABLE 1.1. Total Population Trends

		COMPOU D AN GROWTH	JNDE NUAL 1 RATE		
REGION	2008	2013	2018	2008- 2013	2013- 2018
Prince George's County	850,196	891,298	921,599	0.9%	0.7%
Maryland	5,684,992	5,931,139	6,085,188	0.9%	0.5%
United States	304,093,934	316,204,882	327,479,565	0.8%	0.7%

Source: Emsi 2018.2 Dataset

#### FIGURE 1.1. Annual Average Population Growth



Source: Emsi 2018.2 Dataset

has stemmed from an increasing concentration of residents 50 and older. Population projections estimate Prince George's County to continue at a similar pace of growth over the next five years.

Population trends take into account birth and death rates as well as migration patterns. However, we further illustrate how these factors affect population growth within Prince George's County, as shown in the figures. Population estimates are understated as they do not include the active military personnel at Andrews Air Force Base. They also do not include the institutionalized population.

#### AGE

The median age of Prince George's County residents is younger than the median for the rest of the state and nation as displayed in Table 1.2. However, being home to the University of Maryland shapes certain parts of the county differently than others resulting in a large variation in age demographics across the communities. University Park, for example, has a median age of 45.7, whereas, College Park has a median age of 21.5 and Colmar Manor has a median age of 31.2.

A glance at the concentration of population by age group in Prince George's County provides insight into how the region compares to the nation. This further exemplifies the younger working age population demographic. The demographic composition of the population directly affects the composition of the labor force (see Section III).

The two largest generations living today are the millennials and baby boomers. Millennials (ages 22-37 in 2018) number roughly 201,000 in the Prince George's County region, surpassing the 191,000 baby boomers (ages 54-72). Both generations have been on the rise in this region over the past decade. However, boomers have been growing at a faster rate—keeping with the trend nationwide.

#### TABLE 1.2. Median Age of Population, 2016

	MEDIAN AGE
REGION	2016
Prince George's County	36.1
Maryland	38.3
United States	37.7

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates



**FIGURE 1.2.** Concentration of Population by Age Group Cohort, Prince George's County

Source: Emsi Dataset 2018.2



#### FIGURE 1.3. Population by Age Group, Prince George's County

#### FIGURE 1.4. Millennials and Baby Boomers, Pzeurovent of Total Population (2018)



#### TABLE 1.3. Population Age Group Trends—Millennials Join Baby Boomers in the Labor Force (Percent of Total Population)\*

	2008 % OF TOTAL POPULATION		2013 % OF TOTAL PO	PULATION	2018 % OF TOTAL POPULATION		
REGION	MILLENNIALS	BOOMERS	MILLENNIALS	BOOMERS	MILLENNIALS	BOOMERS	
Prince George's County	22.3%	15.7%	22.7%	18.0%	21.8%	20.7%	
Maryland	19.4%	17.3%	20.3%	19.7%	20.3%	22.0%	
United States	20.0%	17.4%	20.5%	19.8%	20.6%	21.9%	

\* As defined by the Pew Research Center, millennials are defined as born during 1981-1996 and 1946-1964 for baby boomers. Due to the limiting breakdown by the Census, age cohorts 20-34 were used for millennials and 55-74 for baby boomers.

Source: Emsi 2018.2 Dataset

#### LABOR FORCE

There was a lot of discussion during the business discussion group sessions around the changing nature of the labor force and how to conform with the differences in expectations with the millennial generation. With such a large influence in the workforce today, it is paramount businesses learn how to manage such expectations against their business practices. Some overarching themes around this conversation related to lack of critical thinking, customer service skills, and soft skills, including work ethic.

#### WIOA PRIORITY POPULATION - YOUTH

Workforce Board's across the country adhere to the federal guidelines of the Workforce Innovation and Opportunity Act (AIOA). WIOA is designed to help job seekers access employment, education, training, and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy.

WIOA is broken into priority population segments. The main segments identified in this report are highlighted specifically to Prince George's County demographics. One of these segments include disengaged or disconnected youth, those ages between 18 and 24 that are not enrolled in school or not employed in the State of Maryland. There are roughly 105,000 young adults within this population cohort within Prince George's County, or 11% of the total population.

Disengaged or disconnected and unemployed young people represent a population group with significant barriers to employment. This population cohort may be affected by multiple barriers including low education levels (no high school diploma), teen pregnancy, lack of work experience, poverty, and lack of knowledge of basic work expectations, such as timeliness. These problems can be exacerbated by a lack of role models who are successfully employed as well as mentorship and apprenticeship programs within businesses or through the Workforce Development Board. Exposure to regional industries was dually noted during the business group discussions.

While the barriers faced by disconnected or disengaged youth are significant, the actual numbers of young people affected are lower than for other priority populations. The labor force participation rate (LFPR) for young workers, ages 16-24, experienced the largest declines over the past five years of data shown. However, the rates are similar to state and national trends. The lower number for 16 to 19-year-olds is most likely because of the increasing share of this age group continuing onto higher education institutions (students) compared to past generations. Therefore, the numbers disguise the potential for underemployment in the younger worker categories.

As defined by the Workforce Innovation Opportunity Act, priority population youth are individuals aged 18-24 who don't attend school and meet one of the following criteria:

- a dropout or has a diploma and is low income or lacking in basic literacy or English skills or
- is homeless or a runaway or
- is in foster care or aged out of foster care or
- is pregnant or parenting or
- is involved with the justice system or has a disability.

The following matrix highlights some of the barriers, implications, and potential solutions for this WIOA priority population. This matrix is adapted from the State of Washington's strategic plan.

#### WIOA PRIORITY POPULATION: DISCONNECTED OR DISENGAGED YOUTH

<b>POTENTIAL BARRIERS</b> <b>TO EMPLOYMENT</b> What is the nature of the barriers themselves?	<b>IMPLICATIONS OF BARRIER</b> How do these barriers inhibit success?	<b>BARRIER SOLUTIONS</b> What can our system do to address the barrier?
<ul> <li>Lack of appropriate interview clothing</li> <li>Lack of positive role models who are employed</li> <li>Homelessness</li> <li>Hygiene issues</li> <li>Lack of time management skills, including the experience of having to follow a regular work schedule</li> <li>Lack of transportation</li> <li>Lack of cell phone or a consistent contact number</li> <li>Lack of "soft skills" or knowledge of professionalism</li> <li>Criminal history</li> <li>Location</li> <li>Low education level ormental disability</li> <li>Lack of vital documents</li> <li>Low self-esteem and confidence</li> <li>Poor verbal skills/appropriate language and vocabulary</li> <li>Living in a foster home that doesn't allow employment</li> <li>No career training before entering college</li> <li>Parents are not supportive of young person's plan</li> <li>Not graduating from high school</li> <li>The increased number of regular meetings thatyouth need to attend to maintain resources</li> <li>Difficulty with people in authority positions</li> <li>Pregnancy and parenting</li> <li>Low level of life skills</li> <li>Lack of access to computers for job search</li> </ul>	<ul> <li>Without proper work attire the employer may think that the individual is not invested in the job or will not be a good representative of the business.</li> <li>Have the feeling that not working is acceptable because others who influence them are not working, including those supported by public sources</li> <li>Lack motivation to find and maintain a job because of other distractions, such as gaming, social media, etc.</li> <li>Have poor hygiene that keeps individuals from getting or keeping a job whether from lack of motivation or lack of access to showers, soap, etc.</li> <li>Are considered unreliable because they do not keep or follow schedules; this makes it hard for an employer to depend on an individual if they cannot plan their time and follow through or commit to being somewhere at a specific time.</li> <li>Are considered unreliable if they do not have a means of arriving as scheduled and on time</li> <li>May find it difficult to hold a job if an employer does not have a consistent means of communicating with an individual if needed</li> <li>Without appropriate knowledge, the ability to communicate effectively or be social in the appropriate settings the individual may be limited when trying to get a job, keep it, or be promoted.</li> <li>The use of improper language can make it less likely to be hired or to keep a job.</li> <li>A criminal history may limit the number of interested employers or jobs.</li> <li>Employment opportunities are limited in remote and rural areas.</li> <li>May lack the knowledge and/or ability needed to be hired, to keep a job, or to be promoted, even after training</li> <li>Have not learned to follow directions accurately</li> <li>Unable to look for work without proper documentation</li> <li>Lack confidence because of multiple barriers which may result in poor self-image; may not feel good about themselves or feel good enough to apply for work</li> <li>May not be allowed to work due to rules of the foster home</li> <li>Lack tof encourtsystems needed to work, ranging from</li></ul>	<ul> <li>Partner with programs like Goodwill that include job training plus interviewing skills and work wear</li> <li>Provide ipend trendy clothing that appeals to a younger audience</li> <li>Provide job shadowing</li> <li>Provide job mentors</li> <li>Develop job fairs that target young people's job interests and have younger professionals staffing the booths</li> <li>Develop a rental program that will assist with first month rent and security deposit for newly hired employees</li> <li>Provide a variety of free hygiene products</li> <li>Provide clocations that will allow free and daily showering and laundering</li> <li>Create a trial work program to ease individuals into the work force</li> <li>Have funding available to reimburse foster parents or other caregivers</li> <li>Offer incentives-taxi rides, gas vouchers or fuel cards</li> <li>Supply bus passes to youth that get a job.</li> <li>Provide free cell phones for job seekers and employed individuals</li> <li>Offer education classes related to the importance of soft skills and one-on-one support</li> <li>For ex-offenders, check if record sealing is possible</li> <li>For ex-offenders, identify employeers who will hire youth with criminal convictions</li> <li>Provide outreach for youth in rural areas and/or assistance with transportation</li> <li>Increase case management and/or provide intensive training for a particular skill or job</li> <li>Provide "orisis support" when mental health interferes with ability to do the job</li> <li>Obtain documents prior to exiting foster care; create a process and provide funding for replacing lost vital documents after exiting foster care</li> <li>Create confidence workshops and provide empowerment opportunities</li> <li>Provide job training during high school and again in college</li> <li>Develop mentoring programs for job readiness</li> <li>Offer more flexibility meeting program requirements</li> <li>Create flexible work exc</li></ul>

## WIOA PRIORITY POPULATION - OLDER WORKERS

The discussion of older workers is taking place against the backdrop of an expanding population of older people due to increasing life expectancy and the aging baby boom generation (age 54-72 in 2018). These workers often need to stay in the workforce longer due to diminished retirement funds. Further, labor shortages mean that employers can be more amenable to hiring and retaining older workers. As the baby boomers approach retirement, their exit will have major effects on the functioning labor market.

As defined by the Workforce Innovation Opportunity Act, an older

worker is an individual who is 55 years or older. There are 240,000 individuals over the age of 55 in Prince George's County—26% of the total population and 32% of the working population. Although some baby boomers are working longer due to diminished retirement funds as a result of the recession, this is still a significant portion of a region's working population. Therefore, industry alongside education and government will have to work together to ensure continuity in the production of its workforce.

The following matrix highlights some of the barriers, implications, and potential solutions for this WIOA priority population.

<b>POTENTIAL BARRIERS</b> <b>TO EMPLOYMENT</b> What is the nature of the barriers themselves?	<b>IMPLICATIONS OF BARRIER</b> How do these barriers inhibit success?	<b>BARRIER SOLUTIONS</b> What can our system do to address the barrier?
<ul> <li>May be uncomfortable with technology</li> <li>May have physical disabilities</li> <li>Need assistance with Activities of Daily Living (ADLs)</li> <li>Have a real or perceived decline in workplace skills and ability or interest in learning new skills</li> <li>Lack transportation</li> <li>Focus is more on Youth in Transition and adults younger than 40 years of age</li> <li>Feel stigma of dislocation or unemployment</li> <li>Afraid of technology</li> <li>Experiencing problems with memory, hearing or other physical or mental challenges</li> </ul>	<ul> <li>Unable to use computers, Internet, printers, faxes, so unable to benefit from in-place programming</li> <li>Manifesting changes in hearing and physical abilities</li> <li>Having difficulty w/ ADLs such as using the bathroom, grooming, eating (e.g., low blood sugar so may need a snack)</li> <li>May be less able to compete for living-wage job</li> <li>Feel lost in the American Job Center's (AJC) system with the focus on younger adults</li> </ul>	<ul> <li>Offer mentors</li> <li>Partner with another older person</li> <li>Use curricula/staff able to adjust training to meet the learning style/needs of the participant</li> <li>Focus on physical abilities, instead of disabilities</li> <li>Hire staff sensitive and able to address any ADL related issues</li> <li>Have a break room with healthy snacks (no soda or processed food in the vending machines)</li> <li>Provide access to work-based learning, such as on-the-job training and paid work experience, to demonstrate their skills to a potential employer</li> <li>Engage the SCSEP in the overall AJC system</li> <li>Provide training and education to staff focused on working with the aging workforce</li> <li>Partner with emotional support and groups to help with managing stress</li> </ul>

#### WIOA PRIORITY POPULATION: OLDER INDIVIDUALS

 Partner with social services agencies in addition to DVR/DSB.

#### DIVERSITY

Diversity in the workforce can be a driving factor in helping businesses appeal to larger markets and customer preferences. The variety of backgrounds and experiences that can be found in diverse employee groups often brings more creativity into the workplace. Many local economies have economic development efforts that seek

#### TABLE 1.4. Racial Make-up of Working Residents

RACIAL MAKE-UP OF WORKING RESIDENTS.	% OF WORKING POPULATION			
PRINCE GEORGE'S COUNTY	2011	2016		
White Alone	49.3%	46.9%		
Black or African American Alone	41.2%	42.9%		
American Indian or Alaska Native Alone	0.6%	0.6%		
Asian Alone	6.7%	7.1%		
Native Hawaiian or Other Pacific Islander Alone	0.2%	0.2%		
Two or More Race Groups	2.0%	2.2%		

\*Hispanic is an ethnicity and, therefore, not included in the "racial" make-up Source: U.S. Census Bureau, Quarterly Workforce Indicators

#### TABLE 1.5. Total Population Diversity Trends

to attract a diverse population base in efforts to increase local entrepreneurship and grow local creative endeavors, such as in the arts.

Prince George's County has a richly diverse population base compared to either the state of Maryland or the country. As shown in Table 1.5, over 80% of Prince George's County citizens identify themselves as ethnic or racial minorities. Of which, over 62% are black or African American and nearly 19% identify themselves as Hispanic or Latino, compared to 30% and 10%, respectively, statewide. Table 1.4 illustrates how the composition of the workforce has become more diverse over time.

Organizations and communities stand to gain several benefits from having a diverse workforce. Many firms experience growth in market share and are able to penetrate new markets or experience greater innovation with increasing diversity. Likewise, many communities have achieved greater success in attracting creative, skilled talent as their communities grow more diverse. Nearly one half of Prince George's County working residents classify themselves as ethnic or racial minorities.

	2008			2013			2018		
	PRINCE George's County	MARYLAND	UNITED STATES	PRINCE George's County	MARYLAND	UNITED States	PRINCE George's County	MARYLAND	UNITED States
White	15.8%	56.0%	64.8%	14.1%	53.2%	62.5%	12.4%	50.5%	60.5%
Hispanic or Latino	14.2%	7.6%	15.7%	16.2%	8.9%	17.1%	18.6%	10.2%	18.2%
Black or African American	63.9%	29.0%	12.3%	63.2%	29.3%	12.4%	62.2%	29.8%	12.5%
Asian/Pacific Islander	0.3%	0.2%	0.7%	0.2%	0.2%	0.7%	0.2%	0.2%	0.7%
American Indian/Alaska Native	4.0%	5.3%	4.6%	4.3%	6.0%	5.1%	4.4%	6.7%	5.7%
Other, Two or More	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%	0.0%	0.1%	0.2%

Source: Emsi 2018.2 Dataset

According to Census data, nearly one infour Prince George's County residents are foreign born, of which 59% are not U.S. citizens. Over 60% of the foreign born which are not U.S. citizens are Hispanic. Over 5% of this foreign born population that are not U.S. citizens are enrolled in college, 73% are employed (construction, health-care, education, and professional services sectors), only 5.3% are unemployed, and 22% are not in the labor force. Furthermore, over 17,800 of Prince George's County households are limited English speaking—6% of total households (nearly 80,000 people over the age of 5 years old). The single largest concentration of the foreign born population come from El Salvador. This presents additional needs for American Job Center staff to understand and support.

The matrix on the next page highlights some of the barriers, impli-

cations, and potential solutions for this WIOA priority population. Data on low levels of literacy are provided in the Education section of this report.

Prince George's County is not the only diverse county in the area. Both Montgomery and Anne Arundel counties have diverse populations when compared to the national and state averages. Montgomery County, in particular, is a strong-hold for foreign-speaking and foresign-born individuals and has the largest Asian population as a share of the workforce when compared to surrounding regions. Of those surrounding counties analyzed, the share of White population has declined in every area over the past decade while the Black population has been trending upward, with the exception of Washington DC.

		200	8		2013			2018				
	ANNE Arundel County	MONTGOMERY County	NORTHERN VIRGINIA	WA DC	ANNE Arundel County	MONTGOMERY County	NORTHERN VIRGINIA	WA DC	ANNE Arundel County	MONTGOMERY County	NORTHERN VIRGINIA	WA DC
White	73.8%	51.3%	60.9%	33.5%	71.1%	47.0%	59.3%	35.7%	68.0%	43.3%	57.6%	36.9%
Hispanic or Latino	5.5%	16.0%	14.7%	8.7%	6.8%	18.2%	15.9%	10.3%	7.9%	19.7%	16.0%	11.3%
Black or African American	15.0%	16.5%	13.7%	52.3%	15.7%	17.4%	13.6%	48.0%	16.9%	18.5%	14.3%	45.1%
Asian/Pacific Islander	3.3%	13.8%	8.3%	3.5%	3.6%	14.7%	8.5%	3.7%	4.1%	15.6%	9.1%	4.2%
American Indian/ Alaska Native	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%
Other, Two or More	2.1%	2.2%	2.2%	1.8%	2.5%	2.5%	2.5%	2.1%	2.8%	2.7%	2.8%	2.3%

#### TABLE 1.6. Diversity Trends in Surrounding Areas

WIOA PRIORITY POPULATION: English Language Learners, Individuals with Low Levels of Literacy, Individuals facing Substantial Cultural Barriers

<b>POTENTIAL BARRIERS</b> <b>TO EMPLOYMENT</b> What is the nature of the barriers themselves?	<b>IMPLICATIONS OF BARRIER</b> How do these barriers inhibit success?	<b>BARRIER SOLUTIONS</b> What can our system do to address the barrier?
<ul> <li>Low literacy levels in both native Spanish and English</li> <li>Limited proficiency in English</li> <li>Limited Spanish Proficiency.</li> <li>Low level of technological skills and knowledge.</li> <li>Mobility</li> <li>Not aware of services available to them</li> </ul>	<ul> <li>Limited ability to read in native language, and possibly not at all in either Spanish or English</li> <li>Unable to communicate with WIOA providers, which limits access</li> <li>Many farmworkers are from very remote areas of their native country and speak only in their own dialect</li> <li>Limits their access to online options, resume writing, other technological options that are accessible by more tech savvy customers</li> <li>Migrant farmworkers travel from city to city, and, usually, from state to state. They are not in an area long enough to enroll and benefit from training programs, and don't build relationships with labor exchange providers as easily as farmworkers who live in one area.</li> <li>Unable to access WIOA services if they are not aware of what's available at the AJC or online either because they lack information on services, cannot or do not come into the office</li> <li>Staff may not be making the proper referrals or informing farmworkers of their options.</li> </ul>	<ul> <li>Provide English as a Second Language classes. Provide literacy classes in Spanish for native Spanish speakers. Research shows that people who are proficient in their native language can apply the concept of reading and language acquisition to learning a second language.</li> <li>Provide interpreters or contract for interpretation services via telephone</li> <li>Increase number of bilingual staff in areas with large numbers of farm- workers</li> <li>Provide information in all forms, i.e. written, spoken, online, in Spanish.</li> <li>Seek interpreters or staff who speak dialects in areas of high concentra- tion of indigenous farmworkers</li> <li>Offer basic computer classes with bilingual instructors</li> <li>Teach information and strategies specifically related to the need, such as resume programs, online job search, application completion, using the Internet</li> <li>Use programs like KeyTrain for those farmworkers who have some English proficiency</li> <li>Most importantly, expose these clients to technology and help them learn to use it</li> <li>Create a network so that WIOA program staff can coordinate with provid- ers in different areas and states. Help the farmworkers make connections with staff in other offices and states. Explore whether it possible under WIOA to provide services to the same participant in two different areas or states for continuity.</li> <li>Conduct outreach to farmworkers, preferably in coordination with WIOA staff to educate them on training and job service options</li> <li>Train LWDA 2 AJC center staff to provide information to farmworkers about the full array of services available to them</li> </ul>

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## FOREIGN-BORN POPULATION AND LANGUAGES

Prince George's County is home to over 192,000 foreign-born individuals and a large amount of diverse speaking people. This includes a large amount of people from Asia, Africa, and the Americas. These foreign-born nationals and other language speakers add value to the workforce, and could potentially be an untapped labor pool with exceptional skills in a variety of occupations and trades. Large amounts of foreign-born individuals bring degrees and certifications from their country of origin, understanding the United States equivalent to these qualifications can be vital to placement. These potentially very highly skilled workers may need to either finish their degree or certifications or can be directly placed into the workforce.

Only Montgomery County has more foreign-born nationals living in their region out of all the surrounding geographies, including Washington D.C.

#### **TABLE 1.7** Place of Birth (foreign-born population)

	EUROPE	ASIA	AFRICA	AMERICAS	OCEANIA	TOTAL
Prince George's County	5,303	29,624	45,133	111,924	71	192,055
Anne Arundel County	7,327	15,539	4,049	19,057	321	46,293
Montgomery County	31,249	122,601	53,433	126,455	959	334,697
Northern Virginia	9,218	28,822	19,304	35,702	464	93,510
Washington D.C.	16,681	17,991	14,583	42,232	1,026	92,513

#### TABLE 1.8 Languages Spoken

	ONLYENGLISH	SPANISH	INDO-EUROPEAN	ASIAN/PACIFIC	OTHER
Prince George's County	622,651	145,545	32,995	22,219	30,265
Anne Arundel County	474,165	27,924	13,358	14,562	3,475
Montgomery County	579,791	174,103	97,486	96,741	43,807
Northern Virginia	242,760	50,576	24,405	19,145	23,704
Washington D.C.	528,344	58,565	25,778	12,014	12,923
Maryland	4,604,525	486,012	261,539	213,284	123,504
Virginia	6,624,859	565,699	283,829	305,352	128,287

#### **INCOME AND POVERTY**

Percapita income is measured in terms of a family's "money income." Money income includes wages and salaries plus other income such as social security and unemployment benefits.

Adjusted for inflation, per capita income has dropped nearly 3% in Prince George's County since 2011, nearly one percent statewide, and increased 0.3% across the U.S., on average. The difference is largely due to population in Prince George's County growing at a faster rate while overall personal income did not keep pace because of the difference in rising personal current transfer receipts (social security, medicare, and other governmental subsidies).

#### TABLE 1.9. Per Capita Income, adjusted in 2016 dollars

	2011*	2016	PERCENT Change
Prince George's County	\$34,225	\$33,220	-2.9%
Maryland	\$38,097	\$37,756	-0.9%
United States	\$29,747	\$29,829	0.3%

\* adjusted in 2016 dollars

Source: U.S. Census Bureau, American Community Survey

**TABLE 1.10.** Gini Index of Income Inequality (on a scale between 0 and 1—closer to 1 indicates higher inequality)

	UNITED STATES	MARYLAND	PRINCE GEORGE'S COUNTY
Gini Index	0.4804	0.4513	0.3951

Source: U.S. Census Bureau, American Community Survey

An alternative metric to measure wealth is the gini index. This metric of income inequality ranks income distribution on a scale between 0 and 1—closer to 1 indicates higher inequality. Prince George's County ranks lower than the state and nation—see Table 1.9.

Poverty rates are one measure used to gauge the health of regional economies because it is felt that as the economy grows, so do employment and income growth.<sup>1</sup> Although poverty rates are low

#### FIGURE 1.5. Poverty Rates, Total Population



Source: U.S. Census Bureau, Amwerican Community Survey

1 For further research on poverty measures, the following information and resources may be useful: Current research suggests that, on average, families need an income of about twice the federal poverty level just to afford basic expenses. There are a growing number of individuals and families who, despite being employed, are unable to afford the basic necessities of housing, food, child care, healthcare, and transportation. Through a series of new, standardized measurements, United Way is quantifying the size of the workforce in each state that is struggling financially, and the reasons why. These measurements provide a broader picture of financial insecurity than traditional federal poverty guidelines. The county-by-county report analyzing this ALICE (Asset-Limited, Income Constrained, Employed) population for Maryland can be downloaded at www.unitedwayalice.org. compared to the national average, they are not equal amongst all Prince George's County communities. The large student base of College Park comprises the largest share of low-income individuals, 30% living in poverty, followed by 20% both in the town of Bladensburg and Eagle Harbor.

Using federal poverty guidelines, Table 1.11 illustrates that poverty rates edged upward during the last recession and continued to climb a number of years into the recovery as more residents stayed on government assistance. However, poverty rates remain well below the national average.

Poverty is especially hurtful to children as they can be more impacted

by hazardous or unhealthy living conditions, poor educational opportunities, and other risks. These risk factors may impact physical or emotional development, which may further reduce the acquisition of skills required for a career and a steady income.

Overall poverty is lower than the state and considerably lower than the nation. However, there are pockets of higher rates of poverty scattered across the county. With the exception of College Park (student population), Bladensburg has the highest rate of poverty at 20.1%, while Bowie and Upper Marlboro have the lowest, 3.3% and 2.0% respectively. City level data is provided in the appendix of this report.

	TOTAL	POPULATION LIVIN	G BELOW POVERTY	TOTAL CHANGE	TOTAL % Change	AVG ANNUAL % CHANGE	
REGION	2012	% OF TOTAL POPULATION (2012)	2016	% OF TOTAL POPULATION (2016)	2012-2016	2012-2016	2012-2016
Prince George's County	73,215	8.7%	84,744	9.7%	11,529	15.7%	3.0%
Maryland	532,116	9.4%	576,835	9.9%	44,719	8.4%	1.6%
United States	44,852,527	14.9%	46,932,225	15.1%	2,079,698	4.6%	0.9%

#### TABLE 1.11. Population Living Below Poverty

Source: U.S. Census Bureau, American Community Survey

#### TABLE 1.12. Population under the Age of 18 Living below the Poverty Line

	POPULATION UN BELOW POV	DER 18 LIVING Erty line	TOTAL CHANGE	TOTAL % CHANGE	AVG ANNUAL % Change
REGION	2012	2016	2012-2016	2012-2016	2012-2016
Prince George's County	21,612	27,488	5,876	27%	4.9%
Maryland	162,813	176,259	13,446	8%	1.6%
United States	15,188,844	15,335,783	146,939	1%	0.2%

Source: U.S. Census Bureau, American Community Survey

Nearly one in seven persons under the age of 18 in Prince George's County is living in poverty. Childhood poverty across Prince George's County and the state are extremely low compared to the nation—13.7% and 13.3%, respectively, compared to 21.2% in the U.S. (see Figure 1.6, on the next page). There were nearly 6,000 more children under the age of 18 living in poverty from 2011 to 2016, a 27% increase (see Table 1.12). However, the share of youth living in poverty around Prince George's County surpassed the state by 2016 (see Figure 1.6). This may indicate a need for more services to this population group.

Millions of elderly Americans are economically insecure and struggle with rising healthcare and other living costs. Though they may be above the poverty level, factors such as health problems, job loss, unexpected caretaking of grandchildren, or other life events can quickly drive this fixed-income demographic into poverty. Figure 1.7 and Table 1.13, on the next page, illustrate elderly poverty trends (age 65+) and rates. The rate of Prince George's County elderly living in poverty has grown since 2012—bucking state and national

trends (see Table 1.10).

WIOA defines a low-income individual as someone who receives public assistance (SNAP, TANF, SSI, or any other state or local income-based public assistance) or:

- is a homeless individual, or a homeless child or youth;
- receives or is eligible to receive a free or reduced-price lunch; is a foster child on behalf of whom State or local government payments are made; or
- is an individual with a disability whose own income meets the income requirement, but who is a member of a family whose income does not meet this requirement.

According to 2016 Census data, 11% of households in Prince George's County receive food stamps, similar to the state but lower than the nation at 13%.

The matrix on p. 19 highlights some of the barriers, implications, and potential solutions for this WIOA priority population.



#### FIGURE 1.6. Childhood Poverty Rate Trends

#### FIGURE 1.7. Poverty Rates of Population 65 and Over

2012 2016

12.0%



Source: U.S. Census Bureau, American Community Survey

#### TABLE 1.13. Population 65 and Over Living Below the Poverty Line

	POPULATION O BELOW POV	VER 65 LIVING Erty line	TOTAL CHANGE	TOTAL % CHANGE	AVG ANNUAL % Change
REGION	2012	2016	2012-2016	2012-2016	2012-2016
Prince George's County	5,387	7,250	1,863	35%	6.1%
Maryland	53,346	61,055	7,709	14%	2.7%
United States	3,702,237	4,195,427	493,190	13%	2.5%

Source: U.S. Census Bureau, American Community Survey

Source: U.S. Census Bureau, American Community Survey



FIGURE 1.8. Poverty Status by Census Tract, Prince George's County (2016)

#### WIOA PRIORITY POPULATION: LOW-INCOME INDIVIDUALS

tronic options)

POTENTIAL BARRIERS TO EMPLOYMENT What is the nature of the barriers themselves?	<b>IMPLICATIONS OF BARRIER</b> How do these barriers inhibit success?	<b>BARRIER SOLUTIONS</b> What can our system do to address the barrier?
<ul> <li>Lack of education or training</li> <li>Cost of tuition</li> <li>Lack of appropriate clothing orwardrobe</li> <li>Lack of transportation</li> <li>No recent work experience</li> <li>Poor soft skills</li> <li>Housing</li> <li>Domestic violence</li> <li>Lack of affordable childcare (including children with special needs)</li> <li>Lack of GED/HSD</li> <li>Poor personal hygiene and grooming</li> <li>For individuals living in generational poverty situations, they may have limited access to such things as positive role models (e.g., neither parent has ever worked), limited access to learn correct speech patterns and appropriate social interactions, lack of funds to pay for driver's education, limited or no access to a car (or a car that is insured), and lack of trust in public systems, such LWDA 2 AJC or education providers</li> <li>Poor literacy</li> <li>Involved with social service agencies with different and confusing requirements</li> <li>Difficulties accessing medications and/or support they need to address health issues or disabilities</li> <li>Unable to afford a variety of things needed for employment, ranging from transportation, childcare, access to technology at home and elsewhere (computers, smartphones, other elec-</li> </ul>	<ul> <li>Not considered "job ready" because no recent work experience, work skills not current to labor market, no GED/HSD) and may require longer training or education time</li> <li>Difficult to manage full-time attendance with other commitments</li> <li>Lack of wardrobe leaves low-income candidates unable to make a good impression in interviews</li> <li>Unable to participate either consistently or full-time due to lack of reliable transportation, childcare, housing, other issues, such as domestic violence. May also have safety issues.</li> <li>Unable to travel to a LWDA 2 AJC, hiring events, job search, interviews etc.</li> <li>Difficulty successfully navigating the system or meeting participation requirements</li> <li>Difficulty with social interactions (soft skills) so may not actively engage or be engaged in training</li> <li>Difficulty in avigating complex system requirements or understanding available resources</li> <li>Difficulty in affording support services needed to work, which can be a tremendous barrier (transportation, child care, etc.)</li> <li>Fear of losing needed services when an increase in income means no longer qualify for crucial subsidies (childcare, housing, food benefits, medical insurance, and utility assistance)</li> </ul>	<ul> <li>Use available programs to find appropriate training and to cover the cost of tuition</li> <li>Partner with community organizations and businesses to provide business-appropriate wardrobes in various sizes for low-income job seekers, or "scholarships" to upgrade wardrobes</li> <li>Allow flexible participation requirements: part-time, extended, hours, ability to easily reschedule, independent modules</li> <li>Pursue strong collaboration with state and community support services to stabilize housing, childcare, safety from domestic violence, transportation; emphasize referrals and leveraging resources</li> <li>Be aware of the availability of supportive services funding, partnerships with Community Based Organizations (CBOs), provision of online LWDA 2 AJC services and resources</li> <li>Encourage DHS co-location for referrals and support services</li> <li>Reach out to local public transportation or CBOs to coordinate transportation</li> <li>Offer flexible onsite ABE/GED/HSD classes with open enrollment and smaller classes sizes; provide one-on-one assistance</li> <li>Offer soft skill classes that have a positive, long-term effect</li> <li>Pair participants with staff trained in a barrier specific experience</li> <li>Have mentors or navigators who have successfully completed the program(s) while living with some of these barriers</li> <li>Supply or have access to personal hygiene and grooming resources; train staff to be able to address this sensitive issue with individuals</li> </ul>

- Offer workshops to address typical intergenerational behaviors; financial assistance with daycare and transportation; assistance with creating a reliable support network; access to practicing new positive behaviors on the job, e.g. internships; access to medical assistance for health issues, e.g. chronic as well as for glasses; encouragement; access to positive role models
- Partner with DHS social services agencies in addition to DVR/ DSB
- Provide support services initially for immediate needs and connect jobseekers quickly and efficiently to existing services to meet those needs on a longer-term basis

# EDUCATIONAL PROFILE

#### PUBLIC SCHOOL Summary

132,320	students
19,000	employees
8,870	teachers
14.5	student-teacher ratio
207	schools and centers
30 high schools   2	24 middle schools   117
elementary schoo	is   12 charter schools
24 centers	

#### PRIVATE SCHOOL Summary

1,000	students
-------	----------

1,065 teachers

**10.3** student-teacher ratio

#### AVERAGE ANNUAL tuition:

\$9,800/yr	elementary school
\$14,200/yr	high school

## Enrollment

Total public school enrollment in the U.S. increased only slightly during the last decade. Table 2.1 illustrates that total public school enrollment in Prince George's County increased by 1.1% a year, reaching 130,814 students in 2017 while Maryland public school enrollment grew at an annual rate of 0.7%. According to Prince George's County Public Schools, there are currently 132,322 students enrolled in the 2017-2018 school year—another 1.1% over-the-year increase.

In addition to those enrolled in public schools, over 11,000 Prince George's County students are in private schools.

#### TABLE 2.1. Student Enrollment Trends, Public Schools

	STUDENTENROLLMENT			TOTAL Change	TOTAL % Change	AVG ANNUAL % CHANGE
REGION	2007	2012	2017	2007-2012	2012-2017	2012-2017
Prince George's						
County	131,014	123,833	130,814	6,981	5.6%	1.1%
Maryland	851,640	854,086	886,221	32,135	3.8%	0.7%

Source: Maryland State Dept. of Education

## **Diversity**

The diversity of students enrolled in Prince George's County public schools reflects the diversity of the region's population. Roughly 90% of the students enrolled in public schools are either African American or Hispanic, as shown in Table 2.2, and only about 4% of the students are White. A similar proportion are enrolled in private schools—62% African American, 17% White, but only 4% Hispanic and 5% Asian.

## **Student Poverty**

Several federal programs support children's nutritional needs. In 2016, the federal government spent about \$13.6 billion to reimburse schools, child care centers, and after-school programs for children's meals. These programs benefit mainly school-age children from low-income households.

Eligibility rates for these programs can indicate the level of child poverty rate in a region. At some point in the year, nearly half of low-income households with children receiving a free or reduced-price lunch experienced "food insecurity"—difficulty providing enough food for all members of the household owing to a lack of resources, according to the U.S. Department of Education.

A large share of Prince George's County school-age children are eligible for the free and reduced lunch program—nearly 61% of the total student body population are eligible, compared to 43% statewide (Maryland State Department of Education).

#### TABLE 2.2. Student Diversity, Percent of Total Student Population

Black or African American	76,881	58%
Hispanic/ Latino of any race	43,860	33%
White	5,494	4%
Asian	3,719	3%
American Indian/Alaska Native	372	0.3%
Native Hawaiian or Other Pacific Islander	272	0.2%
Two or more races	845	1.5%
English Language Learners	20,345	15.8%
SpecialEducation	14,355	11.1%

Source: Prince George's County Public Schools

TABLE 2.3. Eligibility for Free and Reduced Lunch Programs

	SCHOOL YEAR	
RECIPIENTS BY AREA	2012-13	2017-18
Prince George's County Public School District	60%	61%
Maryland (all public schools)	43%	43%
RECIPIENTS BY SCHOOL	NUMBER	PERCENT
Elementary School	43,790	54%
Middle School	12,636	16%
High School	17,832	22%
Other	6,217	8%
Total	80,475	100%

Source: Maryland Department of Education, National Center for Education Statistics

## Investments in Education

#### **PUPIL EXPENDITURES**

Spending on education varies from state to state and among individual school districts. Prince George's County public school districts spent approximately \$14,400 per student in 2017. This is nearly 3% more than average statewide expenditures. Table 2.4 illustrates that spending per student, when adjusted for inflation, has been flat or falling in Prince George's County and statewide over the last decade. Because school systems usually depend on property taxes for financial support, the housing market slump in 2007—resulting in lower housing prices—reduced school district incomes in many localities.

Montgomery and Anne Arundel counties spent similar amounts of money per pupil as Prince George's County. As you will see later, with the standardized test scores, Anne Arundel County students are scoring significantly higher than Prince George's students. This is despite similar expenditures per student. It must also be noted that the expenditures per pupil have been steadily declining across all Maryland schools. Out of the three counties analyzed here, Prince George's County has seen a decrease in funding—losing almost \$5,000 per pupil in 10 years. This is significant as costs have only risen during this same period of time.

#### STUDENT-TEACHER RATIOS

Nationwide, the numbers of students per teacher have increased over the past decade and currently sits at 15.9. The ratio of students per teacher for grades K-12 in Maryland is 14.7, while the ratio of students per teacher for grades K-12 in Prince George's County is 14.5 (National Center for Educational Statistics, 2016). This is comparable to statewide ratios, as indicated in Table 2.4. The table further illustrates that the ratio grew in Prince George's County during the recession as budgets shrank, but has since improved back to pre-recession levels.

 ${\tt TABLE\,2.4.} \ {\tt Expenditures} \ {\tt per Student} \ ({\tt adjusted} \ {\tt in} \ 2017 \ {\tt dollars}) \ {\tt and} \ {\tt Student} \ {\tt Teacher} \ {\tt Ratios}$ 

	2007		2012		2017	
REGION	EXPENDITURES PER Student	STUDENTS PER Teacher	EXPENDITURES PER Student	STUDENTS PER Teacher	EXPENDITURES PER STUDENT	STUDENTS PE Teache
Prince George's County	\$11,500	14.7	\$14,100	15.6	\$14,400	14.
Maryland	\$12,300	14.4	\$16,000	14.7	\$14,000	14.

Source: Maryland Dept. of Education

TABLE 2.5. Expenditures per Pupil

	2007	2012	2017
Prince George's County	\$14,390	\$13,276	\$9,699
Anne Arundel County	\$12,996	\$12,635	\$9,814
Montgomery County	\$15,012	\$15,021	\$12,647
All Maryland Schools	\$13,966	\$13,455	\$10,371



## Academic Performance

Obtaining a high school diploma is an important indicator of future success in college and in the workplace. The high school graduation rate has trended upward in most areas of the country in the past decade, and this is the case in Prince George's County as well. However, many students still never graduate, and while these numbers are decreasing, educators across the country make continued efforts to close the gaps that remain in many communities.

Prince George's County's graduation rate was roughly six percentage points lower than that of the surrounding regions. However, Prince George's completion rate is ten percentage points higher than that of Washington D.C. Completion rates measure the percentage of individuals in a given age range who are not currently enrolled in high school and who have earned a high school diploma or an alternative credetnail, regardless of when or where the credential was earned. It focuses on an overall age group, as opposed to individuals in the education system; thus, it can be used to study general population issues.

**TABLE 2.6.** High School Graduation Rates, Prince George's

 County
 Schools

CLASSOF	GRADUATION RATE
2012	72.9%
2013	74.1%
2014	76.6%
2015	78.8%
2016	81.4%
2017	82.7%
Maryland (2017)	87.7%

Source: Maryland Department of Education

#### TABLE 2.7. High School Graduation Rates by Surrounding Area

	GRADUATION RATE
Prince George's County	82.7%
Anne Arundel County	88.5%
Montgomery County	89.5%
Northern Virginia	88.8%
Washington D.C.	72.4%

While 82.7% is not stellar, it is not so far behind its peer regions that there is cause for major concern. Keeping high schoolers in school and on the path to graduation is one of the more challenging tasks in any part of the country. By tying in dual credit programs or alternative trade classes at the community college level, high schoolers could see the worth in what they are doing earlier and the value of their education. Especially if they can see the start of a career path at the end of their high school journey.

#### FIGURE 2.1. High School Graduation Rate



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#### **DROPOUT RATES**

Dropping out of high school is associated with potential difficulties for a number of personal and societal outcomes. For example, according to the U.S. Department of Education, not completing high school translates to a loss of approximately \$670,000 in income over a lifetime compared to a person holding a high school diploma.<sup>2</sup> Given this importance, it is encouraging that Prince George's County schools lowered the number of dropouts in the last five years. However, the Hispanic population continues to struggle with high rates of individuals dropping out of high school across the country. Statistics show that ESL students have a difficult time graduating because of language carriers.

Since 2012, dropout rates have declined and high school graduation rates have improved in schools throughout Prince George's County. These improvements have been significant as high school graduation rates rose by 10 percentage points in just six cohorts of graduates, as shown in Table 2.6.

When compared to the other Maryland counties, the dropout rates in Prince George's are significantly higher. This can be partially contributed to a much higher level of chronic absenteeism in Prince George's County compared to the other counties and even the state. Staying in high school becomes much less important the less a student attends, drastically increasing the number of students that drop out of school.

2 U.S. Department of Education. Trends in High School Dropout and Completion Rates in the United States: 1972–2012. FIGURE 2.2. Dropout Rate, Prince George's County



Source: Maryland Department of Education



#### FIGURE 2.3. Dropout Rate, Prince George's County

Source: Maryland Department of Education

FIGURE 2.4. Dropout Rates by Race and Ethnicity, Prince George's County



Source: Maryland Department of Education

#### **CHRONIC ABSENTEEISM**

According to the Hamilton Project, the chronic absence rate is a measurement of individuals that have been absent from classes for at least 3 weeks out of the school year. Prince Georges has chronic absence rate over 80%. Meaning, over 80% of high school students in Prince George's miss at least 3 weeks of school each year. To put this in perspective, the chronic absence rate for the nation is 18% and the state rate is roughly 30%.

In our focus groups, there was a theme put forward by employers on how students coming from the local school system were lacking in soft (essential) skills needed to perform their jobs. One of the biggest issues is getting new employees to show up to work on time or at all. Showing up on time and consistently is something one does out of habit, and one first practiced while in school.

If 80% of the students are not making it to class on a regular basis, that means they are not building those necessary habits building those skills that will help them in the workforce.

There needs to be a reprioritization of what students find import and how they view their entry into high school. High school should be a place they not only prepare for college but also for the workforce. A student trained to show up, work hard, and be reliable will do far better in the workforce, or college, then any of their peers and will succeed no matter what career path they choose to follow. This starts with students coming to class early on in their schooling career and establishing that mindset.

#### FIGURE 2.5. Chronic Absence Rate



Source: The Hamilton Project

#### STANDARDIZED TESTS

Maryland participates in the Partnerships for Assessment of Readiness for College and Careers (PARCC)—a collaboration amongst states. This includes readiness to master rigorous academic content at each grade level, think critically and apply knowledge to solve problems, and conduct research to develop and communicate a point of view. The PARCC tests proficiency (or achievement) in math and English and provide measures set by the collaborative. In Prince George's County schools, the percentage of students achieving at the "met expectations" or "overperformed" levels on PARCC assessments trail the state by 18 percentage points. Nearly 80% of all students underperformed on the PARCC tests for both subjects—84.5% underperformed in math and 73.3% in English. Table 2.8 summarizes the results for the 2017 PARCC tests.

Montgomery County, Anne Arundel County, and Washington D.C.—all of which use PARCC to assess the readiness of their students—had a much larger percentage of students meet or exceed expectations on their PARCC test scores. Montgomery and Anne Arundel counties had over 50% of their students meet or exceed expectations while Washington D.C. had over 30%. This is in stark contrast to Prince George's County, which barely had 20% of their student body meet or exceed expectations on their test scores (combination of English and Math).

Passed in 2010, PARCC is legislation to better asses the readiness of high schoolers for the next step in their careers or education. While this is still relatively new legislation, all but seven states and Washington D.C. have dropped PARCC and moved on to another 
 TABLE 2.8. Partnership for Assessment of Readiness for College and Careers, 2017

			2017	
	PARCC PERFORMANCE All grades	MATH	ENGLISH	ALL
	Underperfomed	63,577	54,257	117,834
	Met Expectations	10,405	16,885	27,290
Prince George's County	Overperformed	0	1,286	1,286
	Underperfomed %	84.5%	73.3%	79.0%
	Met Expectations %	13.8%	22.8%	18.3%
	Overperformed %	0.0%	7.2%	0.9%
	Underperfomed	316,411	283,362	599,773
Maryland	Met Expectations	135,148	157,819	292,967
	Overperformed	25,002	39,437	64,439
	Underperfomed %	66.4%	59.0%	62.7%
	Met Expectations %	28.4%	32.8%	30.6%
	Overperformed %	5.2%	8.2%	6.7%

Source: Maryland Department of Education

standardized testing system. Virginia is one of the states that has dropped PARCC and has moved to a system called Standards of Learning, or SOL. While PARCC measures student's readiness in two different categories, English and Math, SOL also measures students' abilities in Science and History.

#### TABLE 2.9. PARCC by Area

		ENGLISH	MATH
	Prince Georges County	24.6%	13.8%
PARCC Met or Exceeded Expectations	Anne Arundel County	55.7%	36.8%
	Montgomery County	52.0%	43.0%
	Washington D.C.	30.5%	26.9%

Source: Maryland Department of Education

#### FIGURE 2.6. PARCC Scores, Met or Exceeded Expectations



Source:	Maryland Departh	nent of Education

				PASS RATE	
		SUBJECT	2015-2016	2016-2017	2017-2018
	Alexandria City	English: Reading	73%	71%	69%
	Alexandria City	English: Writing	69%	68%	72%
	Alexandria City	History and Social Sciences	77%	76%	75%
	Alexandria City	Mathematics	68%	66%	61%
201	Alexandria City	Science	69%	68%	69%
SOL	Arlington County	English: Reading	87%	87%	84%
	Arlington County	English: Writing	85%	86%	86%
	Arlington County	History and Social Sciences	88%	88%	86%
	Arlington County	Mathematics	87%	86%	83%
	Arlington County	Science	86%	86%	84%

Source: Maryland Department of Education

#### CAREER TECHNICAL EDUCATION (CTE) PROGRAMS

It was stressed in all of the business group discussions that the most critical element to their business is succession planning and the ability to employ younger cohorts. With that, the K-12 education system plays a major role. Students being exposed to a variety of careers and particularly in the technical education realm where the most apparent gaps exist are most critical. While there are many CTE programs available in the current public school systems, exposure to these industries is lacking. Below are a list of CTE programs offered throughout Prince George's County Public School system. Not included in this list are the skilled trades identified by businesses as the largest gaps in their workforce.

- · Law, Education, and Public Service
- Global Studies

- Consumer Services, Hospitality and Tourism
- Business and Finance
- Graphic Arts, Media, and Communications
- · Health and Biosciences
- Engineering and Science
- Architecture and Design
- Environmental Studies
- Aviation and Transportation
- Information Technology
- Homeland Security and Military Science and Junior Reserve
   Officers' Training Program (JROTC)

Source: Prince George's County Public Schools

#### EDUCATIONAL ATTAINMENT

Long-term changes in educational attainment cause structural change in the economy. Regional increases in educational attain-

#### **TABLE 2.10.** Educational Attainment Trends of Population Age 25 and Over

	2008			2013			2018		
EDUCATION ATTAINMENT LEVEL	PRINCE George's County	MARYLAND	UNITED States	PRINCE George's County	MARYLAND	UNITED States	PRINCE George's County	MARYLAND	UNITED States
Less Than 9th Grade	8%	5%	7%	8%	4%	6%	8%	5%	6%
9th Grade to 12th Grade	6%	7%	7%	7%	7%	8%	7%	7%	8%
High School Diploma	28%	26%	29%	26%	26%	28%	26%	25%	28%
Some College	22%	20%	21%	23%	20%	21%	22%	19%	21%
Associate's Degree	6%	6%	8%	6%	6%	8%	6%	6%	8%
Bachelor's Degree	17%	20%	18%	18%	21%	18%	18%	20%	18%
Graduate Degree and Higher	12%	16%	11%	13%	17%	11%	13%	17%	11%

ment in the past decade can be considered a structural change with a permanent impact on the labor market, however, this has not been the case in Prince George's County. Prince George's County residents are on par with the national averages for each educational attainment level with the exception of the share of residents holding graduate degrees or higher. The share of residents age 25 and older that hold a graduate degree or higher is greater than the nation but lowerthanthestate.Figure 2.8 and Table 2.10 illustrate these trends.

FIGURE 2.7. Educational Attainment by Race of Population Age 25 and Over, 2018



FIGURE 2.8. Educational Attainment of Population Age 25 and Over. 2018



#### **POSTSECONDARY EDUCATION**

Emsi determined education completions by using Classification of Instructional Program (CIP) codes and identified the number of completers for every award level within those CIP codes. To find the output for all public and private education institutions in the region, Emsi used data from the Integrated Postsecondary Educational System (IPEDS).<sup>3</sup>This data is publicly available through the National Center for Educational Statistics. Completions data were averaged

3 This data comes with inherent weaknesses. First, numbers are available only for institutions that participate in or are applicants for any federal financial assistance program authorized by the Higher Education Act (HEA). Also, IPEDS does not account for the fact that some people may receive multiple degrees or certifications, so when the number of degrees awarded exceeds the number of people receiving the degrees, the number of completers can be overstated. Nevertheless, this system is the best source for collecting data regarding a broad range of educational institutions. for a five-year period to smooth out the highs and lows in enrollment that may be unique to a particular academic year.

Regional enrollment in degree-granting postsecondary institutions has been gradually climbing by one to two percent per year over the past decade. Table 2.11 shows that this translates into more than 3,200 new postsecondary completions annually in the county.

Tables 2.12 and 2.13, on the next pages, show the distribution of certificates and degrees granted by institution within Prince George's County. The region boasts the University of Maryland with an exceptionally large enrollment concentration. Bowie State University also contributes to four-year degree programs whereas Prince George's Community College provides more specific workforce training programs in the skilled trades.

Tables 2.13 and 2.14 show the number of completions by program within each region.

	POS	T-SECONDARY COMPLETIC	COMPOUND ANNU	AL GROWTH RATE	
REGION	2007	2012	2017	2007-2012	2012-2017
Prince George's County	195,776	215,363	228,255	1.9%	1.2%
Maryland	1,602,348	1,765,354	1,834,039	2.0%	0.8%
United States	71,895,939	79,099,236	83,264,591	1.9%	1.0%

#### TABLE 2.11. Completions from Public Universities and Community Colleges

Source: Emsi 2018.2 Dataset

#### TABLE 2.12. Prince George's County Postsecondary Completions, 2016

NOITUTI	AWARD OFLESS Than 1academic Year	AWARD OF AT LEAST 1 But less than 2 Academic years	ASSOCIATE'S Degree	AWARD OF AT LEAST 2 But Less than 4 Academic Years	BACHELOR'S DEGREE	POST-BACCALAURE- Ate certificate	ALL CERTIFICATES	ALLDEGREES	ALL COMPLETIONS
University of Maryland-University College	0	0	1,474	470	5,684	682	1,152	10,873	12,025
University of Maryland-College Park	0	0	0	74	7,748	176	251	11,211	11,462
Bowie State University	0	0	0	0	833	51	62	1,180	1,242
Prince George's CommunityCollege	57	149	921	0	0	0	206	921	1,127
Strayer University-Maryland	4	1	90	0	215	0	5	533	538
Fortis College-Landover	0	313	23	0	0	0	313	23	336
Brightwood College-Beltsville	0	263	33	0	0	0	263	33	296
Capitol Technology University	5	0	9	0	81	13	18	206	224
Hair Academy Inc-New Carrollton	0	181	0	0	0	0	181	0	181
Hair Academy II	0	43	0	0	0	0	43	0	43
Maple Springs Baptist Bible College and Seminary	0	1	2	0	2	0	1	7	8
Harmon's Beauty School	0	0	0	0	0	0	0	0	0
Totals	66	951	2,552	544	14,563	922	2,495	24,987	27,482

#### TABLE 2.13. Prince George's County Completions by Program

	REGIONAL COMPLETIONS		% OF TOTAL COMPLETIONS COMPLETIONS		RELATED JOBS	REGIONAL OPENINGS	MEDIAN
PROGRAM	2012	2016	2016	2012-2016	2016	2016	HOURLY EARNINGS
Business, Management, Marketing, and Related Support Services	7,564	7,800	28.4%	236	135,115	17,313	\$24.11
Computer and Information Sciences and Support Services	2,507	4,131	15.0%	1,624	19,272	1,876	\$50.10
Liberal Arts and Sciences, General Studies and Humanities	914	2,041	7.4%	1,127	8,263	631	\$31.79
Engineering	1,325	1,779	6.5%	454	20,034	1,746	\$43.49
SocialSciences	1,938	1,751	6.4%	-187	14,548	1,226	\$37.13
Health Professions and Related Programs	1,844	1,654	6.0%	-190	60,963	6,030	\$31.20
Psychology	807	937	3.4%	130	11,458	934	\$34.40
Biological and Biomedical Sciences	856	911	3.3%	55	16,147	1,337	\$42.42
Education	1,119	899	3.3%	-220	31,891	2,844	\$30.72
Communication, Journalism, and Related Programs	634	704	2.6%	70	10,989		\$30.58
Homeland Security, Law Enforcement, Fire- tignting and Related Protective Services	367	642	2.3%	275	36,750	3,950	\$29.94
Visual and Performing Arts	376	362	1.3%	-14	14,454	1,256	\$30.73
Multi/interdisciplinary Studies	214	314	1.1%	100	19,123	1,606	\$39.91
Public Administration and Social Service Protessions	318	306	1.1%	-12	25,341	2,285	\$39.42
English Language and Literature/letters	454	305	1.1%	-149	8,953	701	\$31.42

#### TABLE 2.14. Prince George's County Completions by Program

INSTITUTION	2012	2017	ANNUAL AVERAGE GROWTH RATE
University of Maryland-University College	8,979	12,355	5.5%
University of Maryland-College Park	10,842	11,424	0.9%
Bowie State University	981	1,072	1.5%
Prince George's Community College	1,106	1,061	(0.7%)
Strayer University-Maryland	759	611	(3.6%)
Fortis College-Landover	293	358	3.4%
Brightwood College-Beltsville	304	254	(3.0%)
Capitol Technology University	216	189	(2.2%)

### SECTION III:

## **EMPLOYMENT & LABOR FORCE**

#### THE IMPORTANCE OF THE LABOR FORCE

The labor force is composed of those people age 16 and over in the civilian noninstitutionalized population, including those classified as unemployed. Understanding labor force composition, particularly in terms of skills availability, provides some indications of an economy's dynamism. For example, some economists project lower rates of economic growth in coming years driven largely by the slowing growth of the labor force. Nationwide, slowing labor force growth may be due to several factors, including but not limited to the following:

- Demographicshifts—increases or decreases in retirees or youth
- · Discouraged workers who have dropped out of the labor force
- People who stay in school longer or return to school

#### THE PRINCE GEORGE'S COUNTY LABOR FORCE

The Prince George's County region had nearly 512,000 residents in the labor force in 2017. The county has shown notable growth in its labor force over the past decade, growing nearly 15%, compared to over 8% statewide and nearly 5% across the nation. Pre-recession, the labor force was clipping along at a fairly consistent rate (averaging 1.7% annually). But the recession took its toll on residents; the number of people in the labor force slowed throughout the recession but has picked up in recent years (see Figure 3.1, on the next page).

The rejuvenation in the labor force indicates a promising market for employers but will require succession planning and perhaps technological advances to deal with the shrinking younger age working population.

			LABOR FORCE		COMPOUND ANNUAL GROWTH RATE	
	2007	2012	2017	2007-2012	2012-2017	
Prince George's County	445,492	485,239	511,765	1.7%	1.1%	
Maryland	2,970,094	3,122,466	3,219,455	1.0%	0.6%	
United States	153,123,083	155,089,000	160,310,167	0.3%	0.7%	

#### TABLE 3.1. Labor Force Trends

Source: BLS, Local Area Unemployment Statistics


FIGURE 3.1. Monthly Year-over-Year Percent Change in Labor Force, Prince George's County

Source: BLS, Local Area Unemployment Statistics

# Employed

By U.S. Bureau of Labor Statistics terms, the definition of employed is persons age 16 and over in the civilian noninstitutionalized population who are either working (including part-time and self-employed) or have a job but were temporarily absent from work. Each employed person is counted only once, even if he or she holds more than one job.

Data on the employed and unemployed is collected from a monthly sample household survey, the Current Population Survey (CPS), and counts people by place of residence. There are about 60,000 households in the sample for this survey. This translates into approximately 110,000 individuals each month, a large sample size compared to pubic opinion surveys which usually cover fewer than 2,000 people. The CPS sample is selected so as to be representative of the entire U.S. population and is grouped into 2,025 geographic areas (sampling units) which is then sampled on a rotation each month.

Unlike the state and nation, the number of employed increased through the recession and into recovery (2007-2012), managing to grow 0.8% annually during that time. The rate continued to accelerate and grew by 1.9%, on average, from 447, 197 in 2012 to 490, 451 by 2017. More specifically, the largest contribution was a direct result from the addition of the National Harbor followed by growth at the University and local schools. Healthcare was also a contributor. Taking away the two anomalies, the Prince George's County economy would most likely have kept pace with the rest of the state and nation.

## THE UNEMPLOYMENT RATE

After a steep rise during the recession and its prolonged recovery, the unemployment rate in Prince George's County has recovered in recent years. By 2017, the county had an average unemployment rate of 4.2%—a decline of 3.1 percentage points from 2012 but still elevated from its pre-recession rate of 3.6% in 2007 (Figure 3.2, on the next page).

The Maryland and Prince George's County economies have consistently experienced lower unemployment rates than the U.S. As explained later in this section, the relatively low unemployment rate can be attributed to a healing economy coupled with a shrinking of primary-age wage earners (defined in this report as ages 25-54) participating in the labor force. In 2017, there were a little more than 21,300 people in Prince George's County who were unemployed (Table 3.3).

Typical of many areas across the country, unemployment rates vary across the region. According to Census data, the town of Upper Marlboro had the lowest 2015 unemployment rate of 3.0%, followed by the towns of University Park at 4.4% and Edmonston at 4.9%. There are still areas with extremely high unemployment rates. The two areas with the highest unemployment rates include the towns of Eagle Harbor at 28.6% and Fairmount Heights at 19.2%.



## FIGURE 3.2. Unemployment Rate Trends

Source: BLS, Current Population Survey, Local Area Unemployment Statistics

#### TABLE 3.2. Number of Employed

	EMPLOYED		COMPOUND ANNU	AL GROWTH RATE	
	2007	2012	2017	2007-2012	2012-2017
Prince George's County	429,521	447,197	490,451	0.8%	1.9%
Maryland	2,867,348	2,872,803	3,086,246	0.0%	1.4%
United States	146,046,667	141,008,750	153,337,417	-0.7%	1.7%

Source: BLS, Local Area Unemployment Statistics

#### TABLE 3.3. Number of Unemployed

	UNEMPLOYED		COMPOUND ANNU	AL GROWTH RATE	
	2007	2012	2017	2007-2012	2012-2017
Prince George's County	15,971	35,262	21,315	17.2%	-9.6%
Maryland	102,746	218,245	133,209	16.3%	-9.4%
United States	7,073,083	12,742,250	6,973,250	12.5%	-11.4%

Source: BLS, Local Area Unemployment Statistics

## THE LABOR FORCE PARTICIPATION RATE

A slowing growth in the labor force is a trend confronting employers across the country. According to the U.S. Census' Annual Social and Economic Supplement to the Current Population Survey 2004-2014, the greatest reasons for people not working now compared to 10 years ago was a large influx of retirements, followed by going to school and filing for disability.

In order to better understand this phenomenon, we analyze the labor force participation rate. This broader measure is another indicator of labor market supply and demand and is defined as the share of population (age 16+) that is either working or actively seeking work.

Across the country, the labor force participation rate has been steadily declining for the past 15 years. The trend continues with nearly a net decline of one percentage point between 2012 (62.5) and 2016 (61.8) nationwide. Some economists have attributed this to the recession followed by the unusually slow recovery that caused some workers to become discouraged and permanently drop out of the labor force—particularly the younger working-age cohorts—coupled with the demographic shift of an aging workforce, resulting in a somewhat structural shift in our labor force dynamics.

This means that if the workers who make up the decline in the labor force participation rate would not be in the labor force even if job prospects were strong, then there would be no sizable influx of workers into the labor market as a robust recovery takes hold. Consequently, the unemployment rate would fall much more quickly. Conversely, a cyclical change occurs when willing workers, previously discouraged by the weak job market, are drawn back into the labor market by a robust recovery; they boost the labor force participation rate (since they are now actively looking for work) and also impact the

# **FIGURE 3.3.** Labor Force Participation Rates by Age Group, Prince George's County (Change in Percentage Points, 2012-2016)



Source: U.S. Census Bureau, American Community Survey

#### FIGURE 3.4. Labor Force Participation Rates





Source: BLS, Local Area Unemployment Statistics

FIGURE 3.5. Labor Force Participation Rate Map



**TABLE 3.4.** Labor Force Participation Rates by Prime-age Wage-Earners, Prince George's County

PRIME-AGE WAGE EARNER COHORT	2012	2016	CHANGE IN PERCENTAGE POINTS
25 to 44 years	90.5%	88.8%	-1.7%
45 to 54 years	89.3%	88.4%	-0.9%
55 to 64 years	72.3%	71.1%	-1.3%

## FIGURE 3.6. Workplace Age Trends in Prince George's County



Source: U.S. Census Bureau, LEHD On the Map

Age 55	18.3%	Age 55	16.5%
or older			
		or older	
26.4%		29.5%	

42

# 2012

2016

* Prime-age wage earners are defined as 25-54 for the purposes of		
this study	Age 25	Age 25
Source: U.S. Census Bureau, American Community Survey		
	to 54	to 54
	55.3%	54.1%

unemployment rate. Typically, a declining labor force participation rate can indicate a slowdown in economic activity. But it can also mean the workforce is aging and there aren't enough workers to fill that gap causing this cyclical change.

This trend is occurring nationwide, and it is critical in understanding the current workforce and skills needed for a region to succeed in helping businesses prosper. Figure 3.4 illustrates labor force participation trends. The 2016 labor force participation rate for Prince George's County of 69.3% is more than seven percentage points higher than the nation and nearly four percentage points higher than the state. Although, the rate bodes well for Prince George's County compared to the state and nation, the rate has been declining, albeit at a slow rate..

Figure 3.3 shows which age groups experienced the largest declines in labor force participation. Teens entering the workforce were hit hardest, followed by those ages 20 to 24. Table 3.4 shows labor force rates by age cohort from 2012 to 2016. The proportion of jobs staffed by older workers has grown significantly since the middle of last decade. This is similar to national trends. Factors playing into this phenomenon include but are not limited to the following:

- The aging of the baby boomer cohort
- A need or desire by those near retirement age to continue working and recover or grow their retirement savings lost in the recession
- · An improved healthcare system that allows people to work longer
- Changing lifestyle decisions where many are choosing to work
   later into life than previous generations

Figure 3.5 further illustrates that the percentage of late-career workers has risen, while the proportion of workers under 24 has been in decline.

For younger workers, having a job is important for building job skills

and credentials as well as for beginning to accumulate wealth. During the recession and for years afterward, many young workers found fewer opportunities in shrinking industries like construction and manufacturing and instead went to work in lower-paying retail and food service jobs. Others, in response to the lagging economy, chose to attain more education or left the workforce all together. In coming years, this may change as millennials increasingly reach prime working age.

During the business group discussions, the topic of younger workers came up as a running theme. Specifically mentioned were, their lack of critical thinking, work ethic, customer service skills and, more importantly, the desire to work in certain key industries. All can be remedied to some degree through a variety of programs—see the Recommendations section for more detail.

Throughout this report, it is often highlighted how high the Prince George's County labor force participation rate is, this is especially highlighted when compared against the state and the nation. However, when compared against the surrounding geographies it is considered average. Northern Virginia and the District of Columbia have labor force participation rates that far exceed both Prince George's County and the national averages.

The D.C. metro area attracts highly talented professionals and, therefore, seek outside the area to attract workers in the skilled trades. Ultimately, poaching talent from surrounding areas such as Prince George's County.

#### **TABLE 3.5**

	UNEMPLOYMENT	EMPLOYMENT	LABOR FORCE	POPULATION (16+)	LABOR FORCE PARTICIPATION RATE
Anne Arundel County	11,019	298,195	309,214	446,935	69.2%
Montgomery County	18,280	539,132	557,412	811,165	68.7%
Northern Virginia	6,552	241,665	248,217	317,351	78.2%
Washington DC	24,340	376,498	400,838	554,780	72.3%

Source: BLS, Local Area Unemployment Statistics

# THE EMPLOYMENT-TO-POPULATION RATIO

Another broad measure of labor market strength is the employment-to-population ratio— the proportion of working-age population that are employed. This statistic measures the economy's ability to provide jobs for a growing population; its consistent cyclical properties and the relative accuracy of its seasonal adjustment make the ratio especially useful for evaluating demographic employment trends. But changes in the employment-population ratio tell whether the economy is generating jobs fast enough to provide employment



FIGURE 3.7. Employment-to-Population Ratio Trends

Source: BLS, Local Area Unemployment Statistics

for a constant proportion of the population. In other words, by relating employment to population, we can evaluate the magnitude of job growth. Similar to the labor force participation rate, it indicates a higher degree of participation for Prince George's County than is the case nationwide, as shown in Figure 3.7.

As we have found in communities across the country, businesses have more difficulty hiring for entry level to middle skill positions, including skilled trades. Prince George's County businesses are not struggling to fill higher level positions, probably because of the ready availability of college graduates in the area.

# WAGE AND SALARY TRENDS

Wage increases in Prince George's County, Maryland, and the nation have been modest over the past decade, as illustrated in Figure 3.8. Prince George's County workers' earnings are higher than the state and nation.

Levels of unemployment in Prince George's County and across the country have fallen since the last recession, which would suggest the potential for a tightening of labor markets and resulting higher incomes. But a look at wage data in Figure 3.8, on the next page, suggests that for many Prince George's County workers, real wages—wages adjusted for inflation—have been flat or climbing slightly during the past decade. This mirrors similar wage stagnation in the U.S. economy.

According to Emsi's Compensation Analysis, typical compensation for workers in Prince George's County ranges from \$49,122 to \$66,460. The median wage is \$57,791, which is 28.4% higher than the national median. When you adjust the median wage for regional cost of living, workers "feel like" they only make \$46,381—meaning



#### FIGURE 3.8. Average Earnings Trends, 2007–2017

the cost to live in Prince George's County is more expensive than elsewhere across the country, nearly 25% above the national median.

Typical compensation for entry level workers (0-3 years experience) in Prince George's County ranges from \$15.67 per hourto \$21.20 per hour. The median wage is \$18.44 per hour, which is 14.8% lower than the national median. When you adjust the median wage for regional cost of living (which is 24.6% above the average) workers "feel like" they only make \$14.80 per hour. Although there are over 127,000 workers available at the median wage of \$18.44 per hour (38% of the entire workforce), businesses are still having a difficult time hiring entry level positions in such a highly competitive market as exists in the DC metro area. Some ways area businesses are combating this is to offer flexible schedules, clear career pathways, internal training, life/work balance, telecommuting, bonuses, work culture, profit-sharing, and strong benefits.

# FIGURE 3.9. Talent Supply by Compensation, Prince George's County at Median Wage (2018)



Source: Emsi 2018.2 Dataset

Washington D.C.'s higher median hourly wage coupled with higher cost of living, directly affects the commuting patterns (see next section) that affect Prince George's County workforce.

Salary trends are one of the leading contributors to labor shortages. Not only are the wages lower than that of the surrounding areas,

FIGURE 3.10. Compensation by Years of Experience, Northern Virginia



Typical Compensation

\* Only the median compensation for each cohort is plotted. In reality, compensation for a cohort will range above and below the plotted point.

REGION	10ТН Рст.	25TH PCT.	50TH PCT.	75TH PCT.	90TH PCT.
Northern Virginia	\$25,387	\$40,842	\$70,326	\$132,222	\$209,497
Nation	\$20,808	\$29,128	\$45,016	\$80,056	\$135,032
COL Adjusted	\$17,872	\$28,752	\$49,508	\$93,081	\$147,481

they are not enough to get residents to leave welfare and rejoin the labor force. Welfare is high enough so that a low or even mid-skilled individual could decide that re-entry to the labor force may not be worth their time.

Many Prince George's County employers that were interviewed are

FIGURE 3.11. Compensation by Years of Experience, District of Columbia



#### **Typical Compensation**

\* Only the median compensation for each cohort is plotted. In reality, compensation for a cohort will range above and below the plotted point.

REGION	10ТН Рст.	25TH PCT.	50TH PCT.	75TH PCT.	90TH PCT.
District of Columbia	\$27,068	\$46,196	\$80,106	\$146,758	\$222,793
Nation	\$20,808	\$29,128	\$45,016	\$80,056	\$135,032
COL Adjusted	\$17,132	\$29,238	\$50,700	\$92,885	\$141,008

Source: Emsi 2018.2 Dataset

unable to compete with the higher wages offered in surrounding regions. Some companies are offering hourly wages five to seven dollars less than those in surrounding counties, resulting in difficulty recruiting for such talent and potential labor shortages for skilled workers around the county.

Many people around the country are working hard but struggling to survive. This population has been coined by United Way as the ALICE population (asset limited, income constrained, employed). Over one in three people within Prince George's County fall within this threshold based on a household survival budget—gives the cost of housing, child care, food, transportation, and health care at a bare-minimum "survival" level. It does not include any savings, leaving households without a cushion for unexpected expenses. This minimal budget is much higher than the federal poverty level of \$12,490 for a single adult and \$25,750 for a family of four in 2019 (see Figure 3.10).

#### FIGURE 3.12. ALICE and Federal Poverty level thresholds

Household Survival Budget (Prince George's County)

Federal Poverty Level (2019)



## **COMMUTING PATTERNS**

Commuting data allow communities to understand which occupations and skills are leaving the area for work or vice versa. These data show the opportunities in the untapped segments of the labor pool.

According to Census' LEHD on the Map program, nearly three-quarters of Prince George's County's labor force commute outside the area for work—over 302,000. Despite this, there is a cross-haul of workforce as many are coming into Prince George's County to work as well—roughly 189,000. Over 61% of the jobs available in

FIGURE 3.13. Inflow-outflow of workers, Prince George's County

Prince George's County are being filled by people who live outside the county. A large portion of people who work in Prince George's County live less than 10 miles outside the county.

There is an abundance of workforce available in and around Prince George's County. Figure 3.13 below illustrates the inflow and outflow of workers as well as how many residents are available within a 15-, 30-, and 45-miles of Prince George's County.

FIGURE 3.14. Commuter Flows, Prince George's County (2015)

Germantown 32 270 200 97 665 7 625 007 aton 📅 189,173 302,116 4 50 Alexa ia 5 286 289 Mainiag 118.325

#### AVAILABLE WORKFORCE WITHIN RADII OF PRINCE GEORGE'S COUNTY

15-mile	2.28N
30-mile	3.61N
45-mile	4.12N

Source: Census LEHD on the Map

INFLOW/OUTFLOW JOB COUNTS IN 2015



	2015		
	JOB COUNT	SHARE	
Total All Jobs	307,498	100.0%	
Less than 10 miles	121,714	39.6%	
10 to 24 miles	116,313	37.8%	
25 to 50 miles	47,551	15.5%	
Greater than 50 miles	21,920	7.1%	

STATE OF THE WORKFORCE . 49

FIGURE 3.15. Where Workers Live and Work (2015)



#### Where Workers in Prince George's County Live

 $Where \, {\bf Prince}\, {\bf George's}\, {\bf County}\, residents\, work$ 



Source: Census LEHD on the Map

The majority of the workers who commute into Prince George's County are in educational services and over half of the workers are age 30 to 54 and a large share, 47%, earn over \$3,300 per month. The demographic characteristics for residents commuting outside the area for work are similar, although these commuters work in the healthcare industry.

Emsi uses place of residence data derived from the Census LODES data, specifically from Origin and Destination data, Regional Area Characteristics, and Workforce Area Characteristics data which Emsi applies to the occupation jobs figures for context. This data is referred to here as "Resident Workers." Note that Emsi jobs and commuting data do not match the Census' On the Map data. Emsi uses county-level data while the Census uses drive-time radii.

**TABLE 3.5.** Jobs and Resident Workers by Zip Code, Prince

 George's County (2017)

ZIP CODE NAME	JOBS	RESIDENT WORKERS
Hyattsville	55,474	85,762
Bowie	35,502	61,363
Upper Marlboro	58,156	57,489
Laurel	30,034	37,840
CollegePark	27,289	30,979
Fort Washington	9,415	30,211
Lanham	23,321	24,987
Capitol Heights	10,933	24,984
Temple Hills	9,404	24,441
Clinton	15,194	21,802
District Heights	10,296	21,467
Beltsville	25,716	17,542
Suitland	6,233	16,736
Oxon Hill	13,177	16,362
Greenbelt	14,595	14,760
Riverdale	3,279	11,700
Brandywine	4,883	7,557
Accokeek	2,342	7,061
Mount Rainier	878	5,401
Bladensburg	2,361	4,916
Glenn Dale	1,632	4,512
Brentwood	1,783	3,568
Cheltenham	313	2,026
Andrews Air Force Base	3,103	733
Aquasco	485	574

FIGURE 3.16. Available Workforce, Prince George's County (2018)



20603 Waldorf

20604 20601

(210)

Coccia

Source: Emsi 2018.2 Dataset

Huntingtown

soc	DESCRIPTION	JOBS	RESIDENT WORKERS	MEDIAN HOURLY EARNINGS
TOP 10 LEA	VING			
15-1199	Computer Occupations, All Other	3,613	6,569	\$55.26
13-2011	Accountants and Auditors	2,336	5,304	\$39.21
29-1141	Registered Nurses	3,930	8,320	\$38.35
33-9032	Security Guards	3,241	7,672	\$17.03
11-1021	General and Operations Managers	5,816	10,678	\$66.26
37-2011	Janitors/Cleaners, except Maids/Housekeepers	6,221	11,244	\$12.17
11-9199	Managers, all other	2,742	7,855	\$55.05
13-1111	Management Analysts	2,147	7,767	\$44.78
23-1011	Lawyers	1,372	7,646	\$63.98
13-1199	Business Operations Specialists, all other	2,508	10,995	\$45.64
TOP 10ENT	ERING			
53-3033	Light Truck or Delivery Services Drivers	4,509	3,285	\$17.20
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	6,557	5,358	\$13.19
53-3021	Bus Drivers, Transit and Intercity	2,410	1,526	\$20.16
47-2111	Electricians	2,856	2,110	\$26.00
47-2152	Plumbers, Pipefitters, and Steamfitters	2,268	1,656	\$25.14
25-2021	Elementary School Teachers, except Special Education	4,808	4,252	\$35.86
47-4021	Elevator Installers and Repairers	881	332	\$41.78
19-4099	Life, Physical, and Social Science Technicians, all other	1,552	1,087	\$27.63
51-6011	Laundry and Dry-Cleaning Workers	1,354	935	\$11.22
47-2211	Sheet Metal Workers	907	502	\$25.74

TABLE 3.6. Top and Bottom 10 of Commuters Leaving and Entering Prince George's County for Work, 2017

In order to better understand the types of skills Prince George's County residents possess, we look at the jobs residents hold. Census data in conjunction with Emsi proprietary data show that the types of jobs Prince George's County residents are seeking outside the area are for higher wages. Business operations specialists, lawyers, management analysts, and managers are the top occupations leaving the area for work, according to Emsi data. Whereas, the top occupations people are commuting into the area for are light truck drivers, laborers, bus and transit drivers, electricians, and plumbers.

The table on the previous page provides a more detailed look into these commuters and what types of jobs they hold. The table lists the top and bottom 10 commuters.

In stark contrast to Prince George's County, the surrounding regions of Washington D.C., Anne Arundel County, Alexandria City County, and Arlington County all have high positive net commuter numbers —meaning more jobs than workers that live there. Montgomery County is the only county that has a negative net commuter number, however, only 6,000 compared to 160,000 in Prince George's County. The lower number in Montgomery County compared to Prince George's could be attributed to a more competitive wage offering.

#### FIGURE 3.17. Net Commuters by County



TABLE 3.7. Number (	of Resident	workers and Net	Commuters by Area

	2012 JOBS	2012 RESIDENT WORKERS	2012 NET COMMUT- ERS	2017 <b>JOBS</b>	2017 RESIDENT WORKERS	2017 NET COMMUT- ERS
Prince George's County	342,913	497,999	(155,067)	364,698	534,229	(169,520)
Anne Arundel County	303,123	293,494	9,629	336,257	313,982	22,275
Montgomery County	508,926	523,376	(14,450)	528,991	535,162	(6,171)
Northern Virginia	287,770	204,844	82,926	296,482	215,432	81,049
Washington DC	768,257	342,139	426,118	805,259	369,883	435,376

# Makeup of the Prince George's County Workforce

The backbone of the Prince George's County workforce is built upon the very industries that drive the greater region. The commuting patterns, jobs, and resident worker data show a plentiful workforce available in Prince George's County. The top 25 occupations, in terms of numbers of employees, are shown in Table 3.10, on the next page, along with accompanying wages. These occupations provide nearly 140,000 jobs—more than one-third of total jobs in Prince George's County. Of these occupations, 16 have median wages above \$16.00 per hour.

EMPLOYER	CITY	#EMPLOYEES	INDUSTRY
Prince George's CommunityCollege	Upper Marlboro	2,179	Grantmaking Foundations
Malcolm Grow Medical Clinic	Andrews Air Force Base	1,600	Offices of Physicians (except Mental Health Specialists)
Southern Maryland Hospital Center	Fort Washington	1,364	General Medical and Surgical Hospitals
Prince Georges Hospital Center	Hyattsville	1,204	General Medical and Surgical Hospitals
Nasa Goddard Space Flight Center	Greenbelt	1,000	Museums
Prince Georges County Public Schools	Upper Marlboro	1,000	Elementary and Secondary Schools
Coastal International Security	Upper Marlboro	1,000	Security Guards and Patrol Services
Facilities Management	CollegePark	998	Colleges, Universities, and Professional Schools
Office Movers Inc	Lanham	885	Used Household and Office Goods Moving
District Photo	Beltsville	840	Photography Studios, Portrait
De Rock Ventures Inc	Hyattsville	785	Other Financial Vehicles
Giant Construction Co Inc	Hyattsville	750	New Multifamily Housing Construction (except For-Sale Builders)
Hp Pest Solutions	Lanham	662	Electronic Computer Manufacturing
Giant Food	Hyattsville	600	Supermarkets and Other Grocery (except Convenience) Stores
Open Arm Prp Llc	District Heights	600	Psychiatric and Substance Abuse Hospitals
Kratos Integral Systems International	Lanham	580	Computer and Computer Peripheral Equipment & Software Merchant Wholesalers

**TABLE 3.8.** Top Employers, Prince George's County (2018)

Source: DatabaseUSA

#### TABLE 3.9. Number of Business Establishments, Prince George's County

	ESTABLISHMENTS						
REGION	2007	2012	2017				
Prince George's County	15,989	15,725	16,042				
Maryland	167,843	168,374	171,702				
United States	9,014,799	9,159,083	9,829,776				

Source: Emsi 2018.2 Dataset, based on QCEW data from BLS

SOC	DESCRIPTION	2013	2018	2013-2018 % Change	MEDIAN HOURLY EARNINGS
41-2011	Cashiers	9,799	10,547	7.6%	\$11.13
41-2031	Retail Salespersons	8,727	9,390	7.6%	\$12.07
43-6014	${\tt Secretaries}  {\tt and}  {\tt Administrative}  {\tt Assistants}, {\tt Except Legal}, {\tt Medical}, {\tt and}  {\tt Executive}$	7,947	8,598	8.2%	\$22.19
25-1099	Postsecondary Teachers	8,068	8,419	4.3%	\$31.79
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,695	7,975	19.1%	\$10.19
55-9999	Military occupations	7,961	7,918	-0.5%	\$19.23
43-9061	Office Clerks, General	6,540	7,253	10.9%	\$18.99
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	5,960	6,601	10.8%	\$13.19
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	5,558	6,347	14.2%	\$12.17
11-1021	General and Operations Managers	5,514	5,879	6.6%	\$66.26
43-5081	Stock Clerks and Order Fillers	5,134	5,607	9.2%	\$12.46
43-4051	Customer Service Representatives	5,203	5,391	3.6%	\$19.59
25-2021	Elementary School Teachers, Except Special Education	4,620	4,861	5.2%	\$35.86
53-3033	Light Truck or Delivery Services Drivers	3,988	4,566	14.5%	\$17.20
43-1011	First-Line Supervisors of Office and Administrative Support Workers	4,239	4,529	6.9%	\$32.00
35-3031	Waiters and Waitresses	3,883	4,221	8.7%	\$11.21
41-1011	First-Line Supervisors of Retail Sales Workers	3,831	4,085	6.6%	\$22.00
29-1141	Registered Nurses	3,748	4,048	8.0%	\$38.35
49-9071	Maintenance and Repair Workers, General	3,381	3,701	9.5%	\$21.65
15-1199	Computer Occupations, All Other	3,561	3,618	1.6%	\$55.26
47-2061	Construction Laborers	3,248	3,440	5.9%	\$14.93
33-9032	Security Guards	2,710	3,284	21.2%	\$17.03
33-3051	Police and Sheriff's Patrol Officers	2,989	3,216	7.6%	\$32.58
37-3011	Landscaping and Groundskeeping Workers	2,960	3,141	6.1%	\$13.28
43-3031	Bookkeeping, Accounting, and Auditing Clerks	3,072	3,108	1.2%	\$23.79
	Total for Top 25 Occupations	129,336	139,743	4.6%	\$18.01

TABLE 3.10. Top 25 Occupations in Prince George's County, Ranked by 2018 Employment

Table 3.11 shows those occupations that added the most jobs from 2013-2018. Of these rapidly growing occupations, 11 offer median wages above \$16.00 per hour.

SOC	DESCRIPTION	2013	2018	NUMERIC Change	% CHANGE	MEDIAN HOURLY EARNINGS
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	6,695	7,975	1,279	19.1%	\$10.19
53-3041	Taxi Drivers and Chauffeurs	1,353	2,226	873	64.5%	\$10.84
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	5,558	6,347	789	14.2%	\$12.17
41-2011	Cashiers	9,799	10,547	748	7.6%	\$11.13
43-9061	Office Clerks, General	6,540	7,253	713	10.9%	\$18.99
41-2031	Retail Salespersons	8,727	9,390	663	7.6%	\$12.07
53-3021	Bus Drivers, Transit and Intercity	1,858	2,518	660	35.5%	\$20.16
43-6014	${\tt Secretaries}  {\tt and}  {\tt Administrative}  {\tt Assistants}, {\tt Except Legal}, {\tt Medical}, {\tt and}  {\tt Executive}$	7,947	8,598	651	8.2%	\$22.19
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	5,960	6,601	641	10.8%	\$13.19
53-3033	Light Truck or Delivery Services Drivers	3,988	4,566	578	14.5%	\$17.20
33-9032	Security Guards	2,710	3,284	574	21.2%	\$17.03
31-1011	Home Health Aides	1,194	1,712	519	43.5%	\$12.62
39-9021	Personal Care Aides	1,804	2,318	514	28.5%	\$11.95
43-5081	Stock Clerks and Order Fillers	5,134	5,607	472	9.2%	\$12.46
37-2012	Maids and Housekeeping Cleaners	2,565	3,036	471	18.4%	\$11.54
39-3011	Gaming Dealers	123	577	454	368.7%	\$9.75
11-1021	General and Operations Managers	5,514	5,879	365	6.6%	\$66.26
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	2,075	2,439	364	17.6%	\$19.37
25-1099	Postsecondary Teachers	8,068	8,419	351	4.3%	\$31.79
35-3031	Waiters and Waitresses	3,883	4,221	337	8.7%	\$11.21
49-9071	Maintenance and Repair Workers, General	3,381	3,701	320	9.5%	\$21.65
29-1141	Registered Nurses	3,748	4,048	300	8.0%	\$38.35
35-2014	Cooks, Restaurant	1,764	2,057	293	16.6%	\$13.32
43-1011	First-Line Supervisors of Office and Administrative Support Workers	4,239	4,529	291	6.9%	\$32.00
35-2021	Food Preparation Workers	1,648	1,920	273	16.5%	\$11.63
	Top 25 fastest growing occupations	106,275	119,768	13,493	12.7%	\$20.03

TABLE 3.11. Top Fastest-Growing Occupations in Prince George's County, Ranked by Numeric Job Growth

Table 3.12, on the next page, shows the occupations in Prince George's County with the most annual openings. For occupations that require training beyond a high school diploma, the completions column gives an indication of regional supply of trained job candidates relative to the demand as indicated by annual openings.

The table helps illustrate the most apparent gaps that exist between Prince George's County's educational institutions and regional occupational openings. As outlined earlier, Emsi determined education output by Classification of Instructional Program (CIP) codes and identified the number of completers for every award level within those CIP codes. The association between program completions and occupations can vary significantly. It's quite common that multiple educational programs may train for a single occupation. For example, there are five unique educational programs which train for general and operations managers. But in other cases, the association of a program and occupation is both specific and direct. For instance, to become a nurse there is typically one option: the registered nursing program. Conversely, some occupations do not require a specific educational pathway. Sales jobs frequently fall into this category. While there may be certain training programs that are a better fit for a sales career (e.g., business administration) they are by no means a prerequisite. One can have a successful sales career with a psychology degree, an engineering degree, or no degree whatsoever. Finally, the program-to-occupation crosswalk is not prescriptive; it simply attempts to describe what is typical.

There are no completions shown for educational levels below what is required for the job. If an occupation's entry-level requirement is a bachelor's degree, the completions data shows the number of people who have completed bachelor's degrees or higher in programs relevant to that occupation.

The most apparent gaps are in those occupations requiring an associate's degree or higher with more openings than completions include accounting, mental health professionals, school counselors, elementary school teachers, pharmacists, and physicians.

In addition to those entry level positions identified in the business group discussions and surveys, the following occupations, with educational requirements for entry, represent the growing workforce needs facing Prince George's County employers.

		AVERAGE ANN	IUAL OPENINGS 2	013-2018	EMPLOYME	RELATED COMPLETIONS	
SOC	OCCUPATION DESCRIPTION	REPLACEMENT Jobs	NEW JOBS	TOTAL OPENINGS	TOTAL JOBS	% OF TOTAL JOBS	TOTAL COMPLETIONS
TOP 5 R	EQUIRING NO FORMAL EDUCATION AL CREE	DENTIAL					
41-2011	Cashiers	1,908	90	1,999	10,547	18.9%	0
35-3021	Combined Food Preparation and Serving Workers,						
55-502 I	Including Fast Food	1,293	190	1,483	7,975	2.6%	0
41-2031	Retail Salespersons	1,367	103	1,470	9,390	2.5%	0
53-7062	Laborers and Freight, Stock, and Material Movers,		10		0.004	4.007	
	Hand	901	43	943	6,601	1.6%	0
37-2011	Janitors and Cleaners, Except Maids and House-	781	105	885	6 347	1 1%	0
	keepingCleaners		100	000	0,047	1.170	0
TOPSK		VALENI					
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	893	82	975	8,598	11.3%	0
43-9061	Office Clerks, General	827	81	908	7,253	2.6%	0
43-5081	Stock Clerks and Order Fillers	696	51	747	5,607	2.5%	0
43-4051	Customer Service Representatives	701	38	740	5,391	1.6%	0
53-3033	Light Truck or Delivery Services Drivers	462	43	505	4,566	1.1%	0
TOP 5 RE	QUIRING SOME COLLEGE, NO DEGREE						
43-3031	Bookkeeping, Accounting, and Auditing Clerks	356	12	368	3,108	11.8%	56
25-9041	Teacher Assistants	272	42	314	2,708	2.6%	0
15-1151	Computer User Support Specialists	91	18	109	1,250	2.5%	1,359
49-2011	Computer, Automated Teller, and Office Machine Repairers	49	4	53	455	1.6%	3
27-2011	Actors	13	4	17	152	1.1%	39
TOP 5 RI	EQUIRING POSTSECONDARY NONDEGREE A	WARD					
31-1014	Nursing Assistants	291	48	339	2,738	12.4%	0
53-3032	Heavy and Tractor-Trailer Truck Drivers	282	42	324	2,592	2.6%	0
39-5012	Hairdressers, Hairstylists, and Cosmetologists	184	33	217	1,695	2.5%	125
49-3023	Automotive Service Technicians and Mechanics	178	17	195	1,891	1.6%	0
31-9092	Medical Assistants	127	28	156	1,291	1.1%	270

# TABLE 3.12. Educational Completions and Openings, Prince George's County

		AVERAGE AND	IUAL OPENINGS 2	2013-2018	EMPLOYME	RELATED COMPLETIONS	
SOC	OCCUPATION DESCRIPTION	REPLACEMENT Jobs	NEWJOBS	TOTAL OPENINGS	TOTAL JOBS	% OF TOTAL JOBS	TOTAL COMPLETIONS
TOP 5 RE	QUIRING ASSOCIATE'S DEGREE						
19-4099	Life, Physical, and Social Science Technicians, All Other	169	16	185	1,573	11.7%	0
25-2011	Preschool Teachers, Except Special Education	102	11	113	1,028	2.6%	85
15-1152	Computer Network Support Specialists	61	8	69	820	2.5%	1,359
43-4161	Human Resources Assistants, Except Payroll and Timekeeping	56	2	58	523	1.6%	0
23-2011	Paralegals and Legal Assistants	48	4	52	476	1.1%	114
TOP 5 RE	QUIRING BACHELOR'S DEGREE						
11-1021	General and Operations Managers	469	43	513	5,879	8.7%	4,634
25-2021	Elementary School Teachers, Except Special Ed.	339	75	414	4,861	2.6%	98
15-1199	Computer Occupations, All Other	233	21	254	3,618	2.5%	2,619
29-1141	Registered Nurses	193	68	261	4,048	1.6%	315
13-1199	Business Operations Specialists, All Other	226	18	244	2,542	1.1%	2
TOP 5 RE	QUIRING MASTER'S DEGREE						
25-9031	Instructional Coordinators	178	31	209	2,173	9.6%	293
15-2041	Statisticians	91	29	120	1,403	2.6%	289
21-1012	Educational, Guidance, School, and Vocational Counselors	103	15	118	1,035	2.5%	43
11-9033	Education Administrators, Postsecondary	67	13	80	952	1.6%	124
21-1014	Mental HealthCounselors	40	11	51	445	1.1%	24
TOP 5 R	EQUIRING DOCTORAL OR PROFESSIONAL	DEGREE					
25-1099	Postsecondary Teachers	607	120	728	8,419	8.6%	736
23-1011	Lawyers	59	12	71	1,368	2.6%	92
29-1051	Pharmacists	28	9	37	700	2.5%	4
29-1069	Physicians and Surgeons, All Other	21	11	32	842	1.6%	0
19-3031	Clinical, Counseling, and School Psychologists	22	9	31	375	1.1%	918

## TABLE 3.13. Educational Completions and Openings, Prince George's County

Note: These occupations have a typical entry-level education. They are ranked by most number of average annual openings. There are no completions shown for educational levels below what is required for the job.

Source: EMSI 2018.2 Dataset

# **Business and Industry**

Across the country, new business formation has undergone a slowing trend after peaking prior to the 2007-2009 recession. However, the lastfew years have been a period of economic expansion. Table 3.20 shows that establishments in Prince George's County were hit particularly hard through the recession, losing over 260 (net) businesses from 15,989 in 2007 to 15,725 in 2012. From 2012 to 2017, the county gained back those losses and are now home to a net total of 317 new establishments. The only surrounding county to lose business establishments in the past five years was Montgomery County (528).



#### TABLE 3.20. Business Establishments

	ES	PERCENT CHANGE IN ESTABLISH- MENTS		
REGION	2007	2012	2017	2007-2017
Prince George's County	15,989	15,725	16,042	0.3%
Maryland	167,843	168,374	171,702	2.3%
United States	9,014,799	9,159,083	9,829,776	9.0%

Services 60.7%

> Government 19.6%



# Maryland

Services 70.0%

Source: Emsi 2018.2 Dataset

Government 15.3%

U.S.

Services 69.9%

# TABLE 3.21. Business Establishments by Area

	2	012 PAYROLLED BUSINESS LOCATIONS	2017 PAYROLLED BUSINESS LOCATIONS	% CHANGE
Anne Arundel County		14,680	15,247	3.9%
Montgomery County		33,546	33,018	-1.6%
Northern Virginia		14,836	15,599	5.1%
Washington D.C.		36,019	39,634	10.0%

Source: Emsi 2018.2 Dataset

# EMPLOYMENT CHANGES IN THE PRINCE GEORGE'S COUNTY ECONOMY

The Prince George's County economy is closely tied to government contracts. Because of this, its economic makeup differs from Maryland as a whole. For example, Figure 3.18 on the previous page illustrates that government comprises a larger share of employment in Prince George's County compared to the state as a whole, while the service sector captured a larger percentage of employment in Maryland and nationwide.

Figure 3.19 shows a breakdown of all major industries in Prince George's County. The most noticeable changes in the industry composition of the region over the past decade was in construction and accommodation and food services. The total share of construction jobs to total jobs went from 10.4% to 8.5% as a result of the housing market crash. The number of construction jobs during that timeframe totaled a net loss of over 5,600 while food service jobs gained a net 9,000 during the same period of time. The industry went from comprising 6.7% of total jobs to 8.9%.

# LARGEST REGIONAL EMPLOYERS

Table 3.16, on the next page, shows the largest non-retail and non-military employers in Prince George's County. Combined, these organizations employ more than 23,300 (over 6% of the total employment in Prince George's County). Education, healthcare, and construction are the key sectors among these employers.

FIGURE 3.19. Employment Changes in the Prince George's County Economy, 2008-2018



EMPLOYER	CITY	#EMPLOYEES	INDUSTRY
Prince George's CommunityCollege	Upper Marlboro	2,179	Grantmaking Foundations
Malcolm Grow Medical Clinic	Andrews Air Force Base	1,600	Offices of Physicians (except Mental Health Specialists)
Southern Maryland Hospital Center	Fort Washington	1,364	General Medical and Surgical Hospitals
Prince Georges Hospital Center	Hyattsville	1,204	General Medical and Surgical Hospitals
Nasa Goddard Space Flight Center	Greenbelt	1,000	Museums
Prince Georges County Public Schools	Upper Marlboro	1,000	Elementary and Secondary Schools
Coastal International Security	Upper Marlboro	1,000	Security Guards and Patrol Services
FacilitiesManagement	CollegePark	998	Colleges, Universities, and Professional Schools
Office Movers Inc	Lanham	885	Used Household and Office Goods Moving
District Photo	Beltsville	840	Photography Studios, Portrait
De Rock Ventures Inc	Hyattsville	785	Other Financial Vehicles
Giant Construction Co Inc	Hyattsville	750	New Multifamily Housing Construction (except For-Sale Builders)
Hp Pest Solutions	Lanham	662	Electronic Computer Manufacturing
Giant Food	Hyattsville	600	Supermarkets and Other Grocery (except Convenience) Stores
Open Arm Prp Llc	District Heights	600	Psychiatric and Substance Abuse Hospitals
Kratos Integral Systems International	Lanham	580	Computer and Computer Peripheral Equipment & Software Merchant Wholesalers
Andrews Federal Credit Union	Suitland	555	Consumer Lending
Stinger Ghaffarian Technologies Inc	Greenbelt	553	Engineering Services
Canada Dry Potomac Corporation	Hyattsville	545	Beer, Wine, and Liquor Stores
Freestate Electrical Companies	Laurel	545	Electrical Contractors and Other Wiring Installation Contractors
Southern Md Vocational Industries	District Heights	545	Services for the Elderly and Persons with Disabilities
Stromberg Metal Works Inc	Beltsville	534	Plumbing, Heating, and Air-Conditioning Contractors
University Of Maryland Biotechnology Inst-umbi	CollegePark	500	Elementary and Secondary Schools
Sherwin-williams	Beltsville	500	Paint and Wallpaper Stores
J E Richards Electric Inc	Beltsville	500	Electrical Contractors and Other Wiring Installation Contractors
National Aeronautics Space Adm	Greenbelt	500	Other Gasoline Stations
Crosby Corp	Laurel	500	Employment Placement Agencies
Snd StaffingService	Hyattsville	500	Employment Placement Agencies
District Photo	Beltsville	500	Photofinishing Laboratories (except One-Hour)
W E Bowers Associate Inc	Beltsville	500	Plumbing, Heating, and Air-Conditioning Contractors

# TABLE 3.16. Largest Employers in Prince George's County, Ranked by Employment Size

# INDUSTRY CLUSTER PROFILES

This section of the report provides descriptions and analyses for the largest employing contributing industry clusters in Prince George's County, including labor market gap and supply chain analyses. Prince George's County is home to more than 16,000 establishments that employ more than 365,000 people. The regional economy is projected to add more than 23,000 jobs in the next five years. The

Prince George's County economy produces over \$38 billion per year of value-added goods and services. Government is the largest sector of the Prince George's County economy, accounting for nearly one-third of gross regional product (GRP). Food and beverage manufacturing is the next largest, contributing 12% of total GRP.

FIGURE 4.1. Prince George's County Gross Regional Product by Industry Sector



Source: Emsi Developer 2018.2 dataset

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 TABLE 4.1.1 Prince George's County Employment and Earnings by Industry Sector (2018 – 2023 projected)

CLUSTER	2017 Location Quotient	2017 GRP	2018 Jobs	2023 Jobs	% CHANGE IN JOBS 2018-2023	AVE. EARNINGS PER JOB	2017 TOTAL SALES	2017 % IN-REGION SALES	2017 TOTAL DEMAND	2017 % DEMAND MET IN REGION
Food and Beverage Manufacturing	1.77	\$1,254,073,240	14,720	15,810	7.40%	\$44,735	\$2,144,034,699	50%	\$2,017,822,686	53.60%
Advanced Manufacturing	2.36	\$607,680,912	3,944	4,035	2.30%	\$85,042	\$1,187,156,427	18%	\$1,003,896,431	21.20%
Healthcare and Social Services	0.97	\$2,544,862,112	33,412	37,552	12.40%	\$63,492	\$4,269,677,979	89%	\$8,190,961,220	46.30%
Construction and Real Estate	1.83	\$5,327,101,454	41,666	42,577	2.20%	\$70,068	\$9,852,984,835	58%	\$7,234,736,467	79.20%
Professional, Scientific, Tech	1.45	\$1,736,177,423	13,299	14,641	10.10%	\$100,206	\$2,947,759,574	67%	\$3,875,529,730	50.80%
Education Cluster	3.04	\$3,482,651,140	51,180	55,448	8.30%	\$69,048	\$4,063,399,264	48%	\$3,356,332,682	64.50%
Transportation and Logistics	2.81	\$1,355,232,644	12,858	13,215	2.80%	\$59,390	\$2,473,807,317	48%	\$1,853,570,185	63.00%
Government Services	2.92	\$9,203,591,210	57,431	59,769	4.10%	\$112,140	\$62,660,442,464	5%	\$35,095,133,231	11.40%
Information Technology	1.56	\$1,615,704,775	10,350	9,834	-5.00%	\$108,980	\$2,305,773,583	71%	\$2,526,502,677	65.00%
Business Services	1.38	\$1,326,350,719	18,310	19,529	6.70%	\$48,482	\$2,161,624,244	57%	\$1,563,766,508	78.40%
Recreation, Tourism, and Hosp	1.7	\$2,084,093,558	42,054	46,269	10.00%	\$28,419	\$3,789,277,332	74%	\$4,281,109,341	65.90%
Totals for Prince George's Priority Clusters	2.12	\$30,537,519,185	299,224	318,680	6.50%	\$71,238	\$97,855,937,715	25%	\$70,999,361,158	36.40%
Total for All Prince George's Indus- tries		\$38,214,907,084	365,856	388,857	6.30%	\$66,474	\$110,624,550,233	29%	\$104,325,971,606	32.20%

Source: Emsi Developer 2018.2 dataset

# **Industry Clusters**

The Prince George's County region can achieve economic success and growth by capitalizing on economic strengths, here, categorized into similar industry groupings called clusters. Industry cluster analysis highlights the strengths and weaknesses of each of those industry groupings and shows where focus needs to be placed to encourage growth.

Each industry cluster is comprised of key industry segments (at the 6-digit NAICS level - an industry classification system to classify business establishments) that have a high level of economic integration and interdependency. Not every industry segment is included in a cluster – only those with potential for growth and that fit well within the overall cluster are considered. Therefore, cluster totals will not equal the overall GRP data shown in Table 2.1 above.

When analyzing these clusters, it is important to compare their regional concentration with the national average. This comparison reveals the industry cluster's [relative] concentration in the region, measured by location quotient (LQ). Industries with high concentration (or LQ) are said to be specialized in a region.

In Prince George's County particularly, unique factors within the local economy allow each of the following eleven industry clusters to have a strong concentration:

- Healthcare and Social Services
- Food and Beverage Manufacturing
- Advanced Manufacturing
- Construction and Real Estate
- Professional, Scientific, and Technical Services
- Education

- Transportation and Logistics
- Government Services
- Information Technology
- Business Services
- Recreation, Tourism, and Hospitality

These clusters were chosen based on their contribution to Prince George's County GRP, employment, and location quotient. Each cluster represents areas for growth and diversification for the Prince George's County economy as well as opportunities for regional businesses to diversify their market base. Table 2.2 summarizes projected employment growth for each cluster and corresponding concentration (measured by location quotient, LQ) and compares the clusters' performance against the entire Prince George's County economy. The combined clusters account for nearly 56% of the GRP, and 63% of the jobs. This means that jobs in the target clusters have a lower value-added production and output. Jobs in the targeted clusters pay 16% more than jobs in the overall Prince George's County economy. Only two of the targeted clusters are meeting a lower percentage of local demand for their goods and services than Prince George's County industries in general.

Table 4.1.2, on the next page, shows the performance of the chosen eleven clusters compared to Prince George's County economy while Figure 2.2 shows projected industry cluster job growth arrayed against average annual earnings. Most of the clusters in Prince George's County pay about average or more than average and except one industry cluster are projected to add jobs in the region. The professional, scientific, and technical services cluster is projected to experience the greatest growth while the Information

# TABLE 4.1.2. Prince George's County Industry Clusters Performance Trends

DESCRIPTION	2018 JOBS	2023 JOBS	2018-2023 Change	2018-2023 % Change	AVG. EARNINGS PER JOB	2017 Location Quotient	2017 GRP\$ Million
Government	104,779	111,481	6,702	6%	\$92,449	1.87	\$12,523
Construction	31,448	31,974	527	2%	\$74,053	1.57	\$3,792
Professional, Scientific, and Technical Services	25,116	26,745	1,629	6%	\$95,935	1.07	\$3,286
Retail Trade	40,839	42,994	2,156	5%	\$38,535	1.08	\$2,905
Health Care and Social Assistance	33,609	37,930	4,320	13%	\$60,772	0.73	\$2,487
Wholesale Trade	10,391	10,704	313	3%	\$71,961	0.76	\$1,966
Accommodation and Food Services	31,779	36,077	4,297	14%	\$28,051	1.01	\$1,661
Real Estate and Rental and Leasing	6,862	7,092	229	3%	\$53,384	1.13	\$1,383
Admin, Support, Waste Management and Remedia- tion Services	19,565	20,133	568	3%	\$44,134	0.86	\$1,324
Finance and Insurance	5,882	6,125	244	4%	\$76,348	0.41	\$1,245
Manufacturing	7,864	8,259	395	5%	\$76,053	0.27	\$1,217
Information	3,986	3,552	-435	-11%	\$83,519	0.59	\$1,172
Transportation and Warehousing	13,301	13,869	568	4%	\$53,598	1.05	\$1,120
Other Services (except Public Administration)	16,774	17,419	645	4%	\$35,713	0.96	\$836
Utilities	821	854	32	4%	\$136,049	0.64	\$479
Educational Services	5,685	6,169	484	9%	\$47,316	0.6	\$312
Management of Companies and Enterprises	2,261	2,471	210	9%	\$98,310	0.44	\$260
Arts, Entertainment, and Recreation	4,702	4,854	152	3%	\$22,547	0.75	\$215
Mining, Quarrying, and Oil and Gas Extraction	69	55	-13	-20%	\$74,618	0.05	\$16
Agriculture, Forestry, Fishing and Hunting	123	101	-23	-18%	\$28,350	0.03	\$15
Totals for Prince George's County	365,856	388,857	23,002	6%	\$66,474		\$38,214

Source: Emsi Developer 2018.2dataset



#### FIGURE 4.1.2. Prince George's County Industry Clusters—Size of Bubble Based on 2018 Employment

Projected % Job Growth (2018–2022)

Source: Emsi Developer 2018.2 dataset



FIGURE 4.1.3. Prince George's County Industry Clusters – Size of Bubble Based on 2018 Location Quotient

Projected % Job Growth (2018–2022)

Source: Emsi Developer 2018.2dataset

Technology cluster is the only industry cluster in this study that is projected to be negatively affected by any future contraction. The sole lower-paying clusters are food and beverage manufacturing and the business services clusters.

Figure 4.1.3 shows the location quotient for each of the eleven clusters in this analysis, graphed by average annual earnings and projected job growth or loss between 2018 and 2022.

The following sections profile each of these key eleven industry clusters in Prince George's County. Each profile has a description of the industry cluster, including revenues and employment. Each profile also has a labor gap analysis and a supply chain component. The labor gap analysis examines the supply (the availability of qualified applicants) and the demand (jobs needing to be filled by employers) for labor by using labor market information to analyze recent employment trends and the occupational composition by industry, a key indicator for workforce development boards. The supply chain analysis shows the demand for an industry cluster's goods and services coupled with information on the cluster supply chain (the purchases made by companies in the cluster).

The first table shown in each cluster highlights employment trends for the cluster, illustrating which cluster sectors have been hiring and which sectors have been shedding jobs. The last figure in each cluster description is a chart showing year-over-year cluster employment changes compared with state and national trends.

Data is used to provide a descriptive component of what has happened, what is currently happening, and what is projected to happen within any given industry cluster, industry sector, or occupation. This data can also be evaluated from varying perspectives to provide a larger context of economic understanding. Each of the following metrics provided for the labor market gap analysis or supply chain analysis offers a different perspective of industry performance, the regional fit, or the economic ripple effects of cluster activity.

To Summarize, the tables for each industry cluster contain the following data:

- · Historical job growth and current size
- Future job growth projection
- Industry concentration (location quotient)
- Job multiplier effects
- Industry average wage

**Historical job growth and current size** measures the current employment and past employment by industry sector. It also measures whether an industry has been growing or declining.

**Future job growth projection** incorporates the historical growth and performance of an industry and factors in the growth expectations of an industry at a larger geographic scale (i.e., state, nation, or even global expectations). Industry projection rates are based on past trends carried forward and published projections from state and federal sources.

**Industry concentration (location quotient)** compares the concentration of employment in a regional industry with employment in the same industry for similar regions across the nation. The national average is set to 1.0. As explained in the location quotient section above, any industry with a concentration greater than 1.0 is considered to have high concentration.

**Job multiplier effects** indicate the importance of a job to the regional economy. For example, if a single job has a multiplier of 3, then this one job supports two other jobs in the regional economy due to an indirect or induced effect.
**Industry average wage** is based on industry staffing patterns and the average occupational wage associated with that staffing pattern. The average wage indicates the quality of jobs in a region.

## LABOR MARKET GAP ANALYSIS

Two tables are provided for each labor market gap analysis section for each cluster. The first table lists the top occupations for the cluster, the wages, the number of people employed in each occupation within the cluster, and the total number employed in each occupation in all industries within the region. This provides an understanding of the share of employment the cluster has within the region, and an assessment of the competition the cluster faces from other companies within the region for finding qualified employees. The second table shows the job openings and job entry requirements for each of the top occupations for the cluster, which can provide insight into the compensation levels for certain occupations.

# SUPPLY CHAIN ANALYSIS

Three distinct topics (quantified in three tables) are discussed for each supply chain analysis. These analyses evaluate each cluster's economic performance in the region to provide insights into regional strengths, weaknesses, and opportunities for growth.

The first table shows the total demand for each industry sector within a given cluster. This is the demand by Prince George's County residents and businesses for the products and/or services produced

by that industry sector—regardless of whether the products or services are actually produced within the region. Furthermore, the table shows how much of local demand is met by companies within the region and how much of local demand is met by importing from other regions. This comparison helps determine opportunities to expand local businesses' shares of local demand. For example, if only 10% of regional demand for a product is being met by regional companies, this table will quantify the value of the remaining 90% of demand that could be met by regional companies. (Note that the data for goods or services imported into the region means goods or services brought into Prince George's County from any other place – other US. locations, such as nearby Baltimore, Washington D.C., or other foreign imports).

The second table shows the supply chain for each industry cluster. This table shows the purchases made by companies in the regional industry cluster according to product or service. These purchases are used to run a company and include everything from services to consumable supplies to capital investment in manufacturing equipment. The table also shows how much of the cluster's supply chain need is met by the companies inside the region and how much is imported.

The final table shows total cluster sales, both inside and outside the region. This is useful for understanding how much revenue a cluster is bringing into the region through its sales of goods or services outside of the region. Industries that predominately export their products bring new money into the economy, which in turn drives other regional businesses.

# Health and Social Services

From the 2018 NAICS Manual, the healthcare and social services cluster comprises establishments providing healthcare and social assistance for individuals. The sector includes both healthcare and social services because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with establishments providing medical care exclusively, continuing with those providing healthcare and social assistance. Establishments in this sector deliver services by trained professionals.

Health and social services industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. The range of skills in these industries range from entry level to doctorates, create broadest of in-demand skill sets and talents and are in constant demand throughout Prince George's County and the rest of the country. Thirty-six industries make up the health and social services cluster in Prince George's County. See Table 4.2.3 below for the full list of industries. Table 4.2.3 provides an overview for each of the individual industry sectors that comprise the health and social services cluster in Prince George's County.

Included are historic, current, and projected employment; historic and projected average annual percent growth (or decline); historic and current employment concentration (LQ); average earnings; and gross regional product (GRP). The table is sorted largest to smallest by 2018 sector contribution to GRP.

The health and social services cluster accounts for 33,412 jobs in 2018 and has an LQ of 0.97. This means that overall employment for this cluster is less concentrated in Prince George's County than

would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth of 13.1% over the last five years, or 2.6% annually. This growth is expected to continue – increasing another 12.4% over the next five years. Going forward, finding the necessary workers to fill the demand that the number of new jobs require will be the greatest challenge. Total sales for all companies in this cluster were \$4.2 billion (3.8% of total regional sales) and the cluster contributed nearly \$2.5 billion to the region's gross regional product (6.5% of total GRP) in 2018.

Among cluster industries, general medical and surgical hospitals is the largest employing sector in this cluster but has decreased employment by almost 8% in the last five years. However, in the next five years, this specific industry is projected to regain some job growth, growing by 1.5%. Between 2013 and 2018 to the Prince George's County health and social services cluster saw more growth in medical fields related to emergency response, substance abuse, and mental health. Industries specializing in these types of services saw the predominate amount of growth in the last five years and will continue to lead growth in the next five years, per projections shown in table 4.2.3. In fact, only 5 of the 36 industries in this industry cluster are projected to experience any decline whatsoever in the nextfive years.

Historically, Prince George's County businesses in this health and social services cluster have paralleled the growth and decline experienced by the cluster throughout the State of Maryland. Future projections show Prince George's County continue an upward trend in year-over-year (YOY) growth at roughly the same rate as the state and at a stronger rate when compared to the rest of the nation. Figure TABLE 4.2.1. Health and Social Services Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 JOBS	2018 JOBS	2013- 2018 % Change	2023 Jobs	2018- 2023 % CHANGE	2018 Location Quotient	2017 Total Earnings	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
622110	General Medical and Surgical Hospitals	6,151	5,687	-7.5%	5,773	1.5%	0.53	\$75,800	\$488,641,155	19.2%
621111	Offices of Physicians (except Mental Health Specialists)	4,036	4,601	14.0%	5,206	13.2%	0.77	\$109,844	\$532,013,647	20.9%
623110	Nursing Care Facilities (Skilled Nursing Facilities)	3,054	2,957	-3.2%	3,186	7.8%	0.79	\$46,956	\$160,622,695	6.3%
621610	Home Health Care Services	1,534	2,756	79.7%	3,885	41.0%	0.77	\$39,639	\$181,025,733	7.1%
621210	Offices of Dentists	1,897	2,112	11.3%	2,318	9.8%	0.93	\$70,863	\$172,647,843	6.8%
624120	Services for the Elderly and Persons with Disabilities	1,036	1,727	66.6%	2,093	21.2%	0.40	\$36,266	\$61,419,531	2.4%
624310	Vocational Rehabilitation Services	1,727	1,656	-4.1%	1,622	-2.1%	2.07	\$41,360	\$72,758,545	2.9%
446110	Pharmacies and Drug Stores	1,500	1,632	8.8%	1,679	2.9%	0.98	\$45,433	\$132,074,190	5.2%
621491	HMO Medical Centers	785	1,477	88.2%	1,892	28.1%	2.95	\$91,341	\$163,102,945	6.4%
623311	Continuing Care Retirement Communities	1,057	1,025	-2.9%	1,157	12.9%	0.87	\$43,548	\$55,956,455	2.2%
621492	Kidney Dialysis Centers	599	892	48.9%	1,085	21.6%	2.78	\$60,793	\$69,379,328	2.7%
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	727	803	10.4%	940	17.1%	0.83	\$54,269	\$50,041,479	2.0%
623210	Residential Intellectual and Developmental Disability Facilities	760	730	-3.9%	634	-13.1%	0.77	\$37,945	\$48,636,654	1.9%
624190	Other Individual and Family Services	619	528	-14.7%	530	0.3%	0.47	\$39,196	\$22,595,725	0.9%
621498	All Other Outpatient Care Centers	302	430	42.5%	527	22.5%	1.03	\$64,651	\$34,455,637	1.4%
621330	Offices of Mental Health Practitioners (except Physicians)	171	371	116.7%	443	19.4%	1.27	\$38,211	\$23,970,074	0.9%
621512	Diagnostic Imaging Centers	265	369	39.1%	470	27.5%	2.03	\$60,129	\$25,343,552	1.0%
621420	Outpatient Mental Health and Substance Abuse Centers	219	363	65.5%	468	28.8%	0.62	\$51,567	\$22,716,750	0.9%
623312	Assisted Living Facilities for the Elderly	370	356	-4.0%	399	12.1%	0.34	\$32,054	\$21,263,989	0.8%
621112	Offices of Physicians, Mental Health Specialists	167	352	110.0%	471	33.9%	2.22	\$75,186	\$29,115,607	1.1%
623220	Residential Mental Health and Substance Abuse Facilities	355	351	-1.1%	375	6.8%	0.64	\$48,271	\$21,738,090	0.9%
621511	Medical Laboratories	341	307	-10.0%	357	16.6%	0.63	\$50,188	\$18,945,158	0.7%
623990	Other Residential Care Facilities	276	297	7.7%	300	1.0%	0.77	\$38,162	\$13,267,652	0.5%
621493	Freestanding Ambulatory Surgical and Emergency Centers	220	287	30.5%	330	15.1%	0.77	\$80,222	\$29,285,474	1.2%
624110	Child and Youth Services	142	243	70.8%	265	9.4%	0.48	\$58,114	\$21,608,840	0.8%
621399	Offices of All Other Miscellaneous Health Practitioners	203	211	3.5%	215	2.0%	0.55	\$50,659	\$16,809,741	0.7%
621310	Offices of Chiropractors	239	208	-12.9%	212	1.7%	0.57	\$61,417	\$14,290,929	0.6%
621999	All Other Miscellaneous Ambulatory Health Care Services	251	138	-45.1%	143	3.9%	0.74	\$36,577	\$8,287,643	0.3%
621320	Offices of Optometrists	107	119	11.3%	126	5.9%	0.36	\$54,846	\$7,248,387	0.3%
446130	Optical Goods Stores	160	110	-31.2%	88	-19.8%	0.64	\$38,512	\$8,436,134	0.3%
621391	Offices of Podiatrists	85	96	12.6%	105	10.0%	1.14	\$47,939	\$4,901,065	0.2%
621991	Blood and Organ Banks	11	93	727.9%	142	52.0%	0.54	\$41,631	\$4,514,980	0.2%
621910	Ambulance Services	14	54	297.8%	63	16.1%	0.13	\$21,316	\$1,328,554	0.1%
622210	Psychiatric and Substance Abuse Hospitals	88	33	-62.6%	28	-15.1%	0.12	\$40,559	\$1,508,027	0.1%
339116	DentalLaboratories	40	26	-36.6%	23	-12.3%	0.22	\$51,467	\$1,740,822	0.1%
532283	Home Health Equipment Rental	36	17	-53.0%	<10	-	0.19	\$56,046	\$3,169,084	0.1%
	Totals for Cluster	29,546	33,412	13.1%	37,552	12.4%	0.97	\$63,492	\$2,544,862,112	100.0%

FIGURE 4.2.1. Health and Social Services Employment Trends; YOY Employment Growth



Source: Emsi Developer 2018.2 dataset

4.2.4 shows the YOY growth rate of Prince George's County (Region) directly compared to that of Maryland and the Nation.

# LABOR MARKET GAP ANALYSIS

Table 4.2.2 lists the top 25 occupations in health and social services. These occupations account for 79.3% of all cluster employment. The table provides the number of people employed by occupation in the cluster and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 38% of the people in these occupations in the region. The other 62% are employed by industry sectors outside of the Health and social services cluster.

Occupations within the health and social service cluster require a variety of skills and at all education levels – from home health aides who typically require only a high school diploma to doctors. In fact, all the top 25 occupations typically require only a high school diploma or equivalent. Registered nurses comprise the most jobs in the cluster – nearly 9% of all cluster jobs.

People who have the necessary experience and qualifications for these occupations are in great demand across the nation. Prince George's County has a surplus of these people, as demonstrated by the number of available workers (resident workers) in Table 4.2.4, on the next page. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work (most likely Washington D.C. and Baltimore).

# TABLE 4.2.2. Largest Occupations Specific to Health and Social Services

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
29-1141	Registered Nurses	2,608	2,921	12.0%	3,351	14.7%	8.7%	4,514	8,320	-4,390
31-1014	Nursing Assistants	2,275	2,331	2.5%	2,561	9.8%	7.0%	2,996	4,213	-1,540
39-9021	Personal Care Aides	1,579	2,109	33.6%	2,544	20.6%	6.3%	2,761	4,902	-2,708
31-1011	Home Health Aides	1,144	1,653	44.5%	2,079	25.8%	4.9%	2,145	3,489	-1,896
43-6013	MedicalSecretaries	1,039	1,197	15.2%	1,341	12.0%	3.6%	1,473	1,789	-513
31-9092	Medical Assistants	965	1,165	20.8%	1,348	15.7%	3.5%	1,489	1,833	-595
43-4171	Receptionists and Information Clerks	872	1,010	15.9%	1,142	13.1%	3.0%	2,371	3,411	-1,242
29-2061	Licensed Practical and Licensed Voca- tional Nurses	872	1,008	15.7%	1,168	15.9%	3.0%	1,582	2,058	-704
31-9091	Dental Assistants	610	662	8.5%	728	10.0%	2.0%	830	1,024	-285
43-1011	First-Line Supervisors of Office and Administrative Support Workers	555	646	16.5%	717	11.0%	1.9%	4,763	5,298	-833
29-2052	Pharmacy Technicians	555	607	9.4%	645	6.1%	1.8%	1,004	1,120	-202
39-9041	Residential Advisors	577	603	4.4%	590	-2.2%	1.8%	1,000	1,154	-175
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	501	557	11.1%	604	8.6%	1.7%	8,953	10,789	-2,296
43-9061	Office Clerks, General	444	504	13.5%	572	13.5%	1.5%	7,762	9,489	-2,373
21-1093	Social and Human Service Assistants	444	499	12.3%	532	6.6%	1.5%	1,072	1,479	-494
41-2011	Cashiers	476	482	1.3%	478	-0.9%	1.4%	11,034	11,233	-828
29-1069	Physicians and Surgeons, All Other	430	474	10.3%	529	11.6%	1.4%	909	1,933	-1,109
11-9111	Medical and Health Services Managers	400	464	15.9%	528	13.9%	1.4%	750	1,602	-945
29-1021	Dentists, General	347	451	29.8%	502	11.5%	1.3%	510	579	-137
29-1051	Pharmacists	405	448	10.5%	468	4.5%	1.3%	733	927	-236
43-4051	Customer Service Representatives	320	378	18.1%	427	12.9%	1.1%	5,575	6,020	-672
29-2034	Radiologic Technologists	335	361	7.8%	392	8.8%	1.1%	464	643	-219
29-1123	Physical Therapists	299	354	18.4%	420	18.7%	1.1%	472	761	-375
29-2021	Dental Hygienists	324	352	8.8%	390	10.7%	1.1%	406	547	-189
37-2012	Maids and Housekeeping Cleaners	355	347	-2.3%	373	7.5%	1.0%	3,390	4,190	-1,253
Total		18,731	21,583	15.2%	24,431	13.2%	64.6%	68,956	88,803	-26,209

# TABLE 4.2.3. Health and Social Services Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
29-1069	Physicians and Surgeons, All Other	\$96.69	Doctoral or professional degree	Internship/residency	0	32	21	11
29-1021	Dentists, General	\$68.68	Doctoral or professional degree	None	0	22	11	11
29-1051	Pharmacists	\$59.99	Doctoral or professional degree	None	4	37	28	9
11-9111	Medical and Health Services Man- agers	\$56.44	Bachelor's degree	None	472	60	48	12
29-2021	Dental Hygienists	\$44.93	Associate's degree	None	22	26	21	5
29-1123	Physical Therapists	\$44.54	Doctoral or professional degree	None	0	28	15	13
29-1141	Registered Nurses	\$38.35	Bachelor's degree	None	315	261	193	68
29-2034	Radiologic Technologists	\$36.35	Associate's degree	None	26	27	21	6
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
29-2061	Licensed Practical and Licensed Vocational Nurses	\$24.64	Postsecondary nondegree award	None	5	121	92	29
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
31-9091	Dental Assistants	\$20.77	Postsecondarynondegreeaward	None	131	89	79	10
21-1093	Social and Human Service Assistants	\$20.38	High school diploma or equivalent	Short-term on-the-job training	49	129	110	19
43-6013	Medical Secretaries	\$19.85	High school diploma or equivalent	Moderate-term on-the- jobtraining	26	155	130	25
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
31-9092	Medical Assistants	\$18.73	Postsecondary nondegree award	None	270	156	127	28
29-2052	Pharmacy Technicians	\$16.26	High school diploma or equivalent	Moderate-term on-the- jobtraining	24	83	69	14
43-4171	Receptionists and Information Clerks	\$16.25	High school diploma or equivalent	Short-term on-the-job training	0	304	278	25
31-1014	Nursing Assistants	\$15.20	Postsecondary nondegree award	None	0	339	291	48
39-9041	Residential Advisors	\$14.10	High school diploma or equivalent	Short-term on-the-job training	14	168	156	11
31-1011	Home Health Aides	\$12.62	High school diploma or equivalent	Short-term on-the-job training	0	238	159	79
39-9021	Personal Care Aides	\$11.95	High school diploma or equivalent	Short-term on-the-job training	0	366	283	83
37-2012	Maids and Housekeeping Cleaners	\$11.54	No formal educational credential	Short-term on-the-job training	0	428	348	81
41-2011	Cashiers	\$11.13	No formal educational credential	Short-term on-the-job training	0	1999	1908	90
Total		\$25.97			1358	8159	7243	915

Table 4.2.3 shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Health and social services laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

#### SUPPLY CHAIN ANALYSIS

Table 4.2.4, on the next page, provides a snapshot of total demand met in Prince George's County for products made by companies in the Health and social services industry cluster—worth nearly \$8.2 billion in the region. Table 4.2.6 is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 4.2.6, we see that the companies in these sectors meet slightly less than half of Prince George's County demand for their products, while Prince George's County imports the other half of its needs for these products. This would seem to indicate potential markets for local suppliers. Dentist offices, for example, supply 35% of local demand, supplying about \$959 million of total local demand of \$3.8 billion, while \$1.8 billion is purchased by residents and businesses from outside the region. Other industry sectors that could tap into the Prince George's County market include the following:

- Offices of Physicians, Except Mental Health Specialists
- Offices of Dentists
- Nursing Care Facilities
- · Pharmacies and Drug Stores
- Centers for Elderly Persons with Disabilities
- General Medical and Surgical Hospitals
- Residential Mental Health and Substance Abuse Facilities

Table 4.2.5 shows the amount of goods and services sold by Prince George's County Health and social services companies both inside and outside the region. These companies sell almost \$4.3 billion of products or services, of which only \$473 million is sold outside Prince George's County. While this is a substantial revenue boost, it is only 11% of total sales. An increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the Health and social services industry is a strong and growing industry in the Prince George's County economy. This industry is highly challenged as they must compete with the Washington D.C. and Baltimore metros for the necessary talent in a rapidly growing industry which is only projected to increase in coming years. There are significant opportunities for other Prince George's County businesses (outside of Health and social services) to tap into the Health and social services industry supply chain. In particular, two other strong industries in Prince George's County, information technology and financial and insurance services, who are currently supplying only 28% and 12% of the Health and social services industry's need for these services, with potential capacity for more.

This industry employs a wide range of skills and occupations, paying anywhere from minimum wage to some of the highest wages brought in by Prince George's County residents. One of the strongest draws to this industry is the possible career path available to a worker with relatively low experience. With a very straight forward and clear path, entry level employees can seek out certifications and education to turn a job into a career. The largest challenge presenting itself to Prince George's County is how to find all the necessary workers for their growing industry and then keep it, competing with the nearby, high paying, metros. 
 TABLE 4.2.4. Health and Social Services Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
622110	General Medical and Surgical Hospitals	\$958,699,402	97.0%	\$29,148,137	3.0%	\$987,847,539
621111	Offices of Physicians (except Mental Health Specialists)	\$747,852,171	93.4%	\$53,060,483	6.6%	\$800,912,654
621491	HMO Medical Centers	\$206,224,124	67.5%	\$99,469,615	32.5%	\$305,693,739
621210	Offices of Dentists	\$263,314,587	96.1%	\$10,761,562	3.9%	\$274,076,149
623110	Nursing Care Facilities (Skilled Nursing Facilities)	\$246,164,809	91.1%	\$24,104,289	8.9%	\$270,269,098
621610	Home Health Care Services	\$254,907,052	98.7%	\$3,436,517	1.3%	\$258,343,569
446110	Pharmacies and Drug Stores	\$139,911,019	63.2%	\$81,577,678	36.8%	\$221,488,697
621492	Kidney Dialysis Centers	\$76,130,183	58.6%	\$53,893,280	41.4%	\$130,023,463
623311	Continuing Care Retirement Communities	\$92,411,578	97.9%	\$2,021,661	2.1%	\$94,433,239
624310	Vocational Rehabilitation Services	\$53,928,615	58.1%	\$38,927,776	41.9%	\$92,856,391
624120	Services for the Elderly and Persons with Disabilities	\$63,823,998	81.4%	\$14,596,278	18.6%	\$78,420,276
623210	Residential Intellectual and Developmental Disability Facilities	\$72,078,438	99.2%	\$574,744	0.8%	\$72,653,182
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	\$64,684,167	95.0%	\$3,397,790	5.0%	\$68,081,957
624110	Child and Youth Services	\$59,564,889	88.8%	\$7,534,052	11.2%	\$67,098,941
621498	All Other Outpatient Care Centers	\$59,304,708	91.8%	\$5,267,712	8.2%	\$64,572,420
621493	Freestanding Ambulatory Surgical and Emergency Centers	\$50,904,792	92.8%	\$3,978,892	7.2%	\$54,883,684
621512	Diagnostic Imaging Centers	\$40,790,215	89.1%	\$5,007,635	10.9%	\$45,797,850
621112	Offices of Physicians, Mental Health Specialists	\$41,662,258	95.0%	\$2,169,813	5.0%	\$43,832,071
621420	Outpatient Mental Health and Substance Abuse Centers	\$39,900,981	93.7%	\$2,671,424	6.3%	\$42,572,405
623312	Assisted Living Facilities for the Elderly	\$28,805,605	80.2%	\$7,107,695	19.8%	\$35,913,300
621511	Medical Laboratories	\$32,234,384	94.2%	\$1,999,039	5.8%	\$34,233,423
621330	Offices of Mental Health Practitioners (except Physicians)	\$32,091,922	98.4%	\$519,930	1.6%	\$32,611,852
623220	Residential Mental Health and Substance Abuse Facilities	\$31,442,661	96.5%	\$1,128,264	3.5%	\$32,570,925
624190	Other Individual and Family Services	\$26,136,891	90.6%	\$2,704,033	9.4%	\$28,840,924
621399	Offices of All Other Miscellaneous Health Practitioners	\$20,181,333	88.2%	\$2,688,448	11.8%	\$22,869,781
623990	Other Residential Care Facilities	\$19,428,831	97.7%	\$466,138	2.3%	\$19,894,969
621310	Offices of Chiropractors	\$14,790,458	76.1%	\$4,652,930	23.9%	\$19,443,388
621999	All Other Miscellaneous Ambulatory Health Care Services	\$15,311,409	93.2%	\$1,117,456	6.8%	\$16,428,865
446130	Optical Goods Stores	\$12,930,810	91.4%	\$1,217,223	8.6%	\$14,148,033
621320	Offices of Optometrists	\$8,742,897	88.7%	\$1,118,761	11.3%	\$9,861,658
621991	Blood and Organ Banks	\$7,534,642	84.2%	\$1,416,497	15.8%	\$8,951,139
621391	Offices of Podiatrists	\$6,446,371	96.7%	\$222,065	3.3%	\$6,668,436
532283	Home Health Equipment Rental	\$3,866,446	81.3%	\$889,235	18.7%	\$4,755,681
622210	Psychiatric and Substance Abuse Hospitals	\$2,425,668	75.2%	\$798,523	24.8%	\$3,224,191
339116	DentalLaboratories	\$660,998	23.9%	\$2,109,326	76.1%	\$2,770,324
621910	Ambulance Services	\$1,490,169	56.6%	\$1,143,593	43.4%	\$2,633,762
Total		\$3,796,779,481	88.9%	\$472,898,493	11.1%	\$4,269,677,979

TABLE 4.2.5 Prince George's County Health and Social Services Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMAND MET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
622110	General Medical and Surgical Hospitals	\$958,544,347	34.6%	\$1,813,473,246	65.4%	\$2,772,017,593
621111	Offices of Physicians (except Mental Health Specialists)	\$747,852,170	46.7%	\$853,001,128	53.3%	\$1,600,853,298
623110	Nursing Care Facilities (Skilled Nursing Facilities)	\$246,107,837	49.7%	\$249,191,543	50.3%	\$495,299,380
621210	Offices of Dentists	\$263,314,587	66.0%	\$135,472,937	34.0%	\$398,787,525
446110	Pharmacies and Drug Stores	\$139,911,020	40.6%	\$204,748,653	59.4%	\$344,659,672
621610	Home Health Care Services	\$254,907,052	83.2%	\$51,316,110	16.8%	\$306,223,162
621491	HMO Medical Centers	\$206,224,124	100.0%	\$30,391	0.0%	\$206,254,516
624120	Services for the Elderly and Persons with Disabilities	\$63,823,998	34.6%	\$120,647,019	65.4%	\$184,471,018
624110	Child and Youth Services	\$59,564,888	41.2%	\$85,168,646	58.8%	\$144,733,534
623311	Continuing Care Retirement Communities	\$92,262,571	71.8%	\$36,215,891	28.2%	\$128,478,461
621340	Offices of Physical, Occupational and Speech Therapists, and Audiologists	\$64,684,168	52.9%	\$57,515,237	47.1%	\$122,199,405
621498	All Other Outpatient Care Centers	\$59,304,708	55.5%	\$47,539,179	44.5%	\$106,843,887
621511	Medical Laboratories	\$32,234,384	30.5%	\$73,407,712	69.5%	\$105,642,096
623312	Assisted Living Facilities for the Elderly	\$28,779,451	27.5%	\$76,037,764	72.5%	\$104,817,215
621420	Outpatient Mental Health and Substance Abuse Centers	\$39,900,981	38.9%	\$62,548,343	61.1%	\$102,449,324
624190	Other Individual and Family Services	\$26,136,891	26.8%	\$71,404,479	73.2%	\$97,541,370
621493	Freestanding Ambulatory Surgical and Emergency Centers	\$50,904,793	54.0%	\$43,364,401	46.0%	\$94,269,194
621399	Offices of All Other Miscellaneous Health Practitioners	\$20,181,333	22.4%	\$69,903,981	77.6%	\$90,085,314
623210	Residential Intellectual and Developmental Disability Facilities	\$71,919,062	88.5%	\$9,310,515	11.5%	\$81,229,577
621492	Kidney Dialysis Centers	\$76,130,183	99.9%	\$65,837	0.1%	\$76,196,020
621330	Offices of Mental Health Practitioners (except Physicians)	\$32,091,922	51.9%	\$29,722,032	48.1%	\$61,813,955
623220	Residential Mental Health and Substance Abuse Facilities	\$31,361,540	55.3%	\$25,377,227	44.7%	\$56,738,767
621112	Offices of Physicians, Mental Health Specialists	\$41,662,258	77.0%	\$12,430,547	23.0%	\$54,092,806
624310	Vocational Rehabilitation Services	\$53,928,615	99.9%	\$55,393	0.1%	\$53,984,008
621910	Ambulance Services	\$1,490,169	2.9%	\$50,704,361	97.1%	\$52,194,529
622210	Psychiatric and Substance Abuse Hospitals	\$2,421,406	4.8%	\$47,810,833	95.2%	\$50,232,239
621512	Diagnostic Imaging Centers	\$40,790,215	98.4%	\$669,831	1.6%	\$41,460,046
621320	Offices of Optometrists	\$8,742,898	21.9%	\$31,231,697	78.1%	\$39,974,595
621310	Offices of Chiropractors	\$14,790,458	37.2%	\$24,970,945	62.8%	\$39,761,403
623990	Other Residential Care Facilities	\$19,377,593	51.3%	\$18,373,687	48.7%	\$37,751,280
621999	All Other Miscellaneous Ambulatory Health Care Services	\$15,311,409	42.7%	\$20,559,691	57.3%	\$35,871,100
446130	Optical Goods Stores	\$12,930,811	43.4%	\$16,832,171	56.6%	\$29,762,981
621991	Blood and Organ Banks	\$7,534,642	28.0%	\$19,399,762	72.0%	\$26,934,404
532283	Home Health Equipment Rental	\$3,866,446	16.2%	\$19,987,693	83.8%	\$23,854,138
339116	DentalLaboratories	\$660,998	5.1%	\$12,214,282	94.9%	\$12,875,280
621391	Offices of Podiatrists	\$6,446,371	60.8%	\$4,161,755	39.2%	\$10,608,126
Total		\$3,796,096,299	46.3%	\$4,394,864,921	53.7%	\$8,190,961,220

# Food and Beverage Manufacturing

Food and beverage manufacturing plants transforms raw agriculture materials into products for intermediate or final consumption. Twenty-eight industry sectors make up the food and beverage manufacturing cluster in Prince George's county and includes food processing. Processor are expected to adapt more technology in their plants creating a variety of new technical skills which have been peeking in recent years.

The Food and beverage manufacturing cluster employed 14,720 workers in 2018 (almost 4% of all employment in Prince George's). This cluster is 1.77 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years as building activity picked up following the recession. However, going forward, growth is projected to slow, moving from 12% in the last 5 years to 7% in the next five years.

Among cluster industries, grocery (except convenience) stores is the largest employing sector in this cluster and has maintained steady employment, adding jobs in the years following the recession. Between 2013 and 2018, Prince George's County moved away from some Food and beverage manufacturing industries and into others. Packaged frozen food merchant wholesalers, meat markets, and food (health) Supplement stores declined sharply – perhaps indicating a drop-off from an earlier period of significant activity in those food and beverage manufacturing industries. However, most markets and grocers saw significant increases in employment during the same period, and are projected to continue to experience growth.

Historically, Prince George's County businesses in this food and beverage manufacturing cluster have outpaced both state and national trends. Since 2005, food and beverage manufacturing industries have seen a spike in growth. During the recession, the cluster experienced only minimal job loss and recovered strongly over the last five years. Figure 4 shows the year-over-year (YOY) employment growth rate for Prince George's County has been stronger than that of Maryland or the nation and are projected to continue over the next 10 years.

Food and beverage manufacturing industries typically offer wages on the lower end of the wage scale but contribute handsomely to a region's gross regional product (GRP) and offer career pathways for workers with a wide variety of education and skills. Food and beverage manufacturing industries generally require many more middle-skill jobs than most other industries. These middle-skill jobs are in high demand nationwide and are a particular strength of the Prince George's County economy.

Table 4.3.1. provides an overview for each of the individual industry sectors that comprise the Food and beverage manufacturing cluster in Prince George's County.

# LABOR MARKET GAP ANALYSIS

Table 4.3.2. lists the top 25 occupations in food and beverage manufacturing. These occupations account for 94% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of

TABLE 4.3.1. Food and Beverage Manufacturing Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 JOBS	2013- 2018 % Change	2023 Jobs	2018- 2023 % CHANGE	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
445110	Supermarkets and Other Grocery (except Convenience) Stores	6,091	7,139	17.2%	7,722	8.2%	1.21	\$40,951	\$499,028,398	39.8%
445120	Convenience Stores	1,231	1,567	27.3%	1,828	16.7%	3.79	\$24,935	\$66,931,596	5.3%
424490	Other Grocery and Related Products Merchant Wholesalers	1,090	1,238	13.5%	1,419	14.7%	2.38	\$56,634	\$154,622,605	12.3%
445310	Beer, Wine, and Liquor Stores	948	809	-14.7%	767	-5.2%	2.12	\$39,276	\$56,377,385	4.5%
424410	General Line Grocery Merchant Wholesalers	449	558	24.1%	561	0.5%	1.02	\$64,390	\$78,636,166	6.3%
445230	Fruit and Vegetable Markets	389	440	13.2%	478	8.6%	4.53	\$68,445	\$50,930,713	4.1%
312111	Soft Drink Manufacturing	496	419	-15.6%	360	-14.1%	2.23	\$74,636	\$66,226,331	5.3%
311812	Commercial Bakeries	152	332	118.8%	398	19.9%	1.04	\$43,673	\$22,233,260	1.8%
454210	Vending Machine Operators	293	270	-7.9%	271	0.2%	2.69	\$64,774	\$32,205,669	2.6%
454390	Other Direct Selling Establishments	224	248	10.8%	237	-4.3%	0.86	\$30,924	\$24,781,840	2.0%
424810	Beer and Ale Merchant Wholesalers	140	239	70.5%	284	18.7%	0.91	\$62,664	\$32,681,520	2.6%
311811	Retail Bakeries	177	201	14.0%	237	17.4%	0.90	\$38,787	\$11,789,008	0.9%
424450	Confectionery Merchant Wholesalers	253	189	-25.5%	174	-7.8%	1.38	\$65,762	\$29,212,966	2.3%
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	126	135	7.2%	141	4.1%	1.41	\$57,331	\$17,426,790	1.4%
722330	Mobile Food Services	82	128	55.7%	155	20.9%	1.11	\$26,345	\$12,189,580	1.0%
446191	Food (Health) Supplement Stores	152	111	-26.8%	108	-3.0%	0.85	\$26,120	\$7,372,505	0.6%
311920	Coffee and Tea Manufacturing	100	89	-11.3%	89	0.5%	1.67	\$78,931	\$18,707,240	1.5%
311991	Perishable Prepared Food Manufacturing	39	85	120.1%	101	18.7%	0.67	\$77,898	\$9,568,445	0.8%
311824	Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour	63	84	33.5%	90	7.8%	1.58	\$63,029	\$15,177,546	1.2%
312113	Ice Manufacturing	65	77	18.9%	84	9.4%	4.27	\$66,228	\$9,898,355	0.8%
445220	Fish and Seafood Markets	51	74	46.7%	83	10.9%	1.95	\$39,205	\$4,903,835	0.4%
424420	Packaged Frozen Food Merchant Wholesalers	98	65	-33.6%	35	-46.7%	0.87	\$85,096	\$16,093,176	1.3%
445292	Confectionery and NutStores	33	54	61.2%	70	30.8%	0.90	\$19,242	\$2,177,577	0.2%
445299	All Other Specialty Food Stores	60	47	-22.3%	30	-36.1%	0.24	\$15,050	\$2,570,440	0.2%
445210	Meat Markets	83	46	-44.1%	22	-51.9%	0.36	\$18,255	\$1,781,412	0.1%
312120	Breweries	<10	29	-	39	35.7%	0.18	\$24,312	\$5,414,807	0.4%
445291	Baked Goods Stores	24	27	12.5%	27	0.3%	0.48	\$18,492	\$1,774,662	0.1%
311612	Meat Processed from Carcasses	193	20	-89.5%	<10	-	0.07	\$55,596	\$3,359,414	0.3%
	Totals for Cluster	13.102	14.720	12.4%	15.810	7.4%	1.77	\$44.735	\$1.254.073.240	100.0%



#### FIGURE 4.3.1. Food and Beverage Manufacturing Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 13% of the people in these occupations in the region. The other 87% are employed by industry sectors outside of the food and beverage manufacturing sector.

The occupations with the most jobs in the food and beverage manufacturing cluster are cashiers, because grocery stores are included in this cluster. These occupations comprise more than 27% of the cluster's total jobs. Cashiers make the lowest hourly wage (\$11.13), and as shown in Table 4.3.2. on the next page, have no formal educational requirement. At more than \$66 per hour, General and Operation Managers are paid the most.

As shown in Table 4.3.2., within the top 25 occupations, entry-level requirement for many positions is a high school diploma, or no formal education. (Note that these educational requirements reflect

national averages and may differ from specific requirements of Prince George's County employers.) Most positions require some sort of on the job training, but overall these are considered to be middle skill occupations. Despite the low educational and skill requirement, finding talent to fill the positions in these jobs is extremely difficult, as demand has outrun supply. Negative commuting numbers in red in the net commuter column indicates that people live in Prince George's County and travel elsewhere for work (most likely Washington D.C. and Baltimore).

Table 4.3.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Food and beverage manufacturing laborers, in addition to offering the most jobs in

# TABLE 4.3.2. Largest Occupations Specific to Food and Beverage Manufacturing

500	OCCURATION	EMPLOYED IN INDUSTRY	EMPLOYED IN INDUSTRY	% CHANGE	EMPLOYED IN INDUSTRY	% CHANGE	% OF TOTAL JOBS IN INDUSTRY	ALL JOBS FOR OCCUPATION IN THEREGION	RESIDENT WORKERS	NET COMMUTERS
41-2011	Cashiers	3 520	3 970	12.8%	4 213	6.1%	27.0%	10 547	11 233	-828
43-5081	Stock Clerks and Order Fillers	1.823	2.141	17.5%	2.334	9.0%	14.5%	5.607	5.506	17
41-1011	First-Line Supervisors of Retail Sales Workers	727	810	11.5%	857	5.7%	5.5%	4,085	3,939	105
41-2031	Retail Salespersons	504	527	4.6%	560	6.4%	3.6%	9,390	10,732	-1,463
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	441	491	11.3%	520	5.9%	3.3%	6,601	5,358	1,199
35-2021	Food Preparation Workers	376	451	19.9%	511	13.4%	3.1%	1.920	2.724	-862
43-4051	Customer Service Representatives	379	446	17.9%	483	8.3%	3.0%	5,391	6,020	-672
51-3011	Bakers	271	352	30.0%	392	11.2%	2.4%	582	487	75
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	293	329	12.1%	355	8.2%	2.2%	2,151	1,823	296
53-3033	Light Truck or Delivery Services Drivers	284	315	11.0%	329	4.2%	2.1%	4,566	3,285	1,224
43-1011	First-Line Supervisors of Office and Administrative Support Workers	256	304	18.7%	327	7.5%	2.1%	4,529	5,298	-833
11-1021	General and Operations Managers	265	293	10.4%	310	5.6%	2.0%	5,879	10,678	-4,862
53-3031	Driver/Sales Workers	255	277	8.8%	295	6.7%	1.9%	1,108	984	97
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	217	254	17.0%	291	14.6%	1.7%	7,975	9,087	-1,424
53-7064	Packers and Packagers, Hand	194	199	2.5%	227	13.7%	1.4%	423	669	-256
53-3032	Heavy and Tractor-Trailer Truck Drivers	174	189	8.8%	204	8.1%	1.3%	2,592	2,675	-106
43-5071	Shipping, Receiving, and Traffic Clerks	128	141	10.6%	149	5.5%	1.0%	1,194	1,123	67
51-3021	Butchers and Meat Cutters	128	138	8.5%	162	16.7%	0.9%	152	249	-103
43-9061	Office Clerks, General	112	119	6.3%	126	5.2%	0.8%	7,253	9,489	-2,373
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	109	116	6.3%	109	-6.0%	0.8%	132	158	-22
29-2052	Pharmacy Technicians	88	111	26.3%	127	14.6%	0.8%	935	1,120	-202
43-3031	Bookkeeping, Accounting, and Auditing Clerks	102	105	3.2%	107	1.8%	0.7%	3,108	3,986	-888
51-1011	First-Line Supervisors of Production and Operating Workers	93	104	11.8%	113	8.2%	0.7%	663	614	37
53-7051	Industrial Truck and Tractor Operators	92	96	3.7%	99	3.7%	0.6%	616	686	-69
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	88	93	6.6%	95	2.2%	0.6%	8,598	10,789	-2,296
Total		10,918	12,373	13.3%	13,295	7.4%	84.1%	95,999	108,711	-14,142

\* Employed in Region column is employment for all industries, not just for Advanced Manufacturing

# TABLE 4.3.3. Food and Beverage Manufacturing Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB TRAINING	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$31.91	High school diploma or equivalent	Moderate-term on-the-job training	4	245	220	25
51-1011	First-Line Supervisors of Production and Operating Workers	\$31.81	High school diploma or equivalent	None	146	73	66	7
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
41-1011	First-Line Supervisors of Retail Sales Workers	\$22.00	High school diploma or equivalent	None	0	467	427	40
51-3021	Butchers and Meat Cutters	\$21.54	No formal educational credential	Long-term on-the-job training	0	22	19	3
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$20.36	Postsecondarynondegreeaward	Short-term on-the-job training	0	324	282	42
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
53-7051	Industrial Truck and Tractor Operators	\$18.82	No formal educational credential	Short-term on-the-job training	0	80	76	4
43-5071	Shipping, Receiving, and Traffic Clerks	\$18.53	High school diploma or equivalent	Short-term on-the-job training	0	128	124	5
53-3033	Light Truck or Delivery Services Drivers	\$17.20	High school diploma or equivalent	Short-term on-the-job training	0	505	462	43
29-2052	Pharmacy Technicians	\$16.26	High school diploma or equivalent	Moderate-term on-the-job training	24	83	69	14
51-3011	Bakers	\$14.12	No formal educational credential	Long-term on-the-job training	0	84	70	14
41-9091	Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	\$13.22	No formal educational credential	Short-term on-the-job training	0	21	17	4
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.19	No formal educational credential	Short-term on-the-job training	0	943	901	43
53-3031	Driver/Sales Workers	\$12.96	High school diploma or equivalent	Short-term on-the-job training	0	128	109	19
43-5081	Stock Clerks and Order Fillers	\$12.46	High school diploma or equivalent	Short-term on-the-job training	0	747	696	51
41-2031	Retail Salespersons	\$12.07	No formal educational credential	Short-term on-the-job training	0	1470	1367	103
35-2021	Food Preparation Workers	\$11.63	No formal educational credential	Short-term on-the-job training	0	331	296	35
41-2011	Cashiers	\$11.13	No formal educational credential	Short-term on-the-job training	0	1999	1908	90
53-7064	Packers and Packagers, Hand	\$10.31	No formal educational credential	Short-term on-the-job training	0	78	73	5
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$10.19	No formal educational credential	Short-term on-the-job training	0	1483	1293	190
Total		\$16.09			4864	13184	12153	1032

Prince George's County, also have both the greatest attrition and the largest number of new jobs.

# SUPPLY CHAIN ANALYSIS

Table 4.3.4., on the next page, provides a snapshot of the total demand met by Prince George's County by all for products made by companies in the food and beverage manufacturing industry cluster—worth a total of nearly \$2 billion in the region. Table 4.3.4 is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 4.3.4, we see that the companies in these sectors meet slightly more than half of Prince George's County demand for their products, while Prince George's County imports the other half of its needs for these products. With such balance, there are still potential markets for local suppliers. Breweries, for example, have the second largest demand in the cluster, but only 4% of the total demand comes locally – leaving roughly \$141 million brought in by suppliers outside the county to fill this gap in demand. Other industry sectors that could tap into the Prince George's County market include the following:

- Meat Processed from Carcasses
- Commercial Bakeries
- Perishable Prepared Food Manufacturers
- Food (Health) Supplement Stores

- Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour
- Perishable Prepared Food Manufacturing

Table 4.3.5. shows the amount of goods and services sold by Prince George's County food and beverage manufacturing companies both inside and outside the region. These companies sell over \$2.1 billion of products or services, of which just over \$1 billion is sold outside Prince George's County. This is a substantial revenue boost as it is almost 50% of sales in this cluster. These exports provide an added revenue boost to the Prince George's County economy.

In summary, the food and beverage manufacturing cluster is not a very large cluster, however, it generates a significant amount of income for the county through its exports. There are significant opportunities for other Prince George's County businesses (outside of food and beverage manufacturing) to tap into the Food and beverage manufacturing industry supply chain.

Furthermore, his industry cluster employs a wide range of occupations, but is concentrated around middle skill employment occupations. Wages are relatively low, bordering on minimum wage, for low skill occupations, however occupations such as general and operation managers provide a median wage of \$66.26 an hour. Building up the industry, its supply chain, and offering a high quality of life for those employed in food and beverage manufacturing, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the county.

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
445110	Supermarkets and Other Grocery (except Convenience) Stores	\$448,868,789	61.5%	\$280,661,662	38.5%	\$729,530,451
312111	Soft Drink Manufacturing	\$118,167,119	46.4%	\$136,671,043	53.6%	\$254,838,162
424490	Other Grocery and Related Products Merchant Wholesalers	\$88,297,008	40.8%	\$127,957,607	59.2%	\$216,254,615
424410	General Line Grocery Merchant Wholesalers	\$65,633,395	59.7%	\$44,347,245	40.3%	\$109,980,640
445120	Convenience Stores	\$38,672,100	39.5%	\$59,188,415	60.5%	\$97,860,515
445310	Beer, Wine, and Liquor Stores	\$39,703,494	48.2%	\$42,724,198	51.8%	\$82,427,692
445230	Fruit and Vegetable Markets	\$14,488,265	19.5%	\$59,964,566	80.5%	\$74,452,831
311920	Coffee and Tea Manufacturing	\$19,503,127	30.4%	\$44,678,540	69.6%	\$64,181,667
311812	Commercial Bakeries	\$16,721,731	28.0%	\$42,964,650	72.0%	\$59,686,381
454210	Vending Machine Operators	\$19,913,314	36.9%	\$34,104,911	63.1%	\$54,018,225
424810	Beer and Ale Merchant Wholesalers	\$39,541,328	86.5%	\$6,179,557	13.5%	\$45,720,885
311991	Perishable Prepared Food Manufacturing	\$15,759,824	36.4%	\$27,502,852	63.6%	\$43,262,676
454390	Other Direct Selling Establishments	\$33,866,162	81.5%	\$7,692,459	18.5%	\$41,558,621
424450	Confectionery Merchant Wholesalers	\$19,596,365	48.0%	\$21,270,053	52.0%	\$40,866,418
312113	Ice Manufacturing	\$9,204,788	24.2%	\$28,848,468	75.8%	\$38,053,256
311824	Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour	\$9,342,551	24.8%	\$28,278,541	75.2%	\$37,621,092
311811	Retail Bakeries	\$8,186,892	25.8%	\$23,484,571	74.2%	\$31,671,463
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$16,911,081	69.4%	\$7,460,680	30.6%	\$24,371,761
424420	Packaged Frozen Food Merchant Wholesalers	\$12,060,221	53.6%	\$10,454,504	46.4%	\$22,514,725
722330	Mobile Food Services	\$13,136,482	73.5%	\$4,737,673	26.5%	\$17,874,155
311612	Meat Processed from Carcasses	\$7,279,197	46.5%	\$8,360,376	53.5%	\$15,639,573
446191	Food (Health) Supplement Stores	\$9,817,303	79.4%	\$2,546,398	20.6%	\$12,363,701
312120	Breweries	\$5,835,794	58.5%	\$4,137,364	41.5%	\$9,973,158
445220	Fish and Seafood Markets	\$5,163,908	72.0%	\$2,007,432	28.0%	\$7,171,340
445299	All Other Specialty Food Stores	\$2,398,498	63.8%	\$1,358,919	36.2%	\$3,757,417
445292	Confectionery and NutStores	\$1,791,353	56.3%	\$1,392,834	43.7%	\$3,184,187
445210	MeatMarkets	\$1,086,248	41.7%	\$1,518,701	58.3%	\$2,604,949
445291	Baked Goods Stores	\$1,029,703	39.7%	\$1,564,441	60.3%	\$2,594,144
Total		\$1,081,976,040	50.5%	\$1,062,058,658	49.5%	\$2,144,034,699

TABLE 4.3.4. Food and Beverage Manufacturing Regional Demand Met by Prince George's County Companies

TABLE 4.3.5. Prince George's County Food and Beverage Manufacturing Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
445110	Supermarkets and Other Grocery (except Convenience) Stores	\$448,868,788	68.8%	\$203,732,834	31.2%	\$652,601,622
312120	Breweries	\$5,835,794	4.0%	\$140,792,261	96.0%	\$146,628,055
454390	Other Direct Selling Establishments	\$33,866,163	23.2%	\$111,939,064	76.8%	\$145,805,227
311612	Meat Processed from Carcasses	\$7,279,197	5.0%	\$137,197,529	95.0%	\$144,476,726
312111	Soft Drink Manufacturing	\$118,167,120	82.6%	\$24,946,367	17.4%	\$143,113,486
424410	General Line Grocery Merchant Wholesalers	\$65,633,395	62.0%	\$40,195,850	38.0%	\$105,829,244
424490	Other Grocery and Related Products Merchant Wholesalers	\$88,297,008	86.6%	\$13,656,381	13.4%	\$101,953,389
311812	Commercial Bakeries	\$16,721,732	17.1%	\$81,321,592	82.9%	\$98,043,324
424810	Beer and Ale Merchant Wholesalers	\$39,541,328	82.0%	\$8,670,815	18.0%	\$48,212,144
445310	Beer, Wine, and Liquor Stores	\$39,703,494	90.4%	\$4,194,186	9.6%	\$43,897,679
311991	Perishable Prepared Food Manufacturing	\$15,759,823	39.2%	\$24,432,219	60.8%	\$40,192,042
445120	Convenience Stores	\$38,672,100	99.4%	\$252,126	0.6%	\$38,924,227
311811	Retail Bakeries	\$8,186,892	21.9%	\$29,117,909	78.1%	\$37,304,801
311920	Coffee and Tea Manufacturing	\$19,503,126	53.6%	\$16,903,787	46.4%	\$36,406,913
311824	Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour	\$9,342,552	30.2%	\$21,613,154	69.8%	\$30,955,705
424450	Confectionery Merchant Wholesalers	\$19,596,364	73.2%	\$7,160,338	26.8%	\$26,756,702
445299	All Other Specialty Food Stores	\$2,398,499	9.8%	\$22,101,193	90.2%	\$24,499,691
446191	Food (Health) Supplement Stores	\$9,817,302	42.2%	\$13,448,464	57.8%	\$23,265,766
454210	Vending Machine Operators	\$19,913,314	100.0%	\$5,842	0.0%	\$19,919,157
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers	\$16,911,081	96.7%	\$580,890	3.3%	\$17,491,972
424420	Packaged Frozen Food Merchant Wholesalers	\$12,060,221	75.7%	\$3,869,734	24.3%	\$15,929,956
445210	Meat Markets	\$1,086,248	6.9%	\$14,659,215	93.1%	\$15,745,463
445230	Fruit and Vegetable Markets	\$14,488,265	99.3%	\$105,973	0.7%	\$14,594,238
722330	Mobile Food Services	\$13,136,482	94.6%	\$743,402	5.4%	\$13,879,885
312113	Ice Manufacturing	\$9,204,788	97.2%	\$265,125	2.8%	\$9,469,913
445291	Baked Goods Stores	\$1,029,703	11.2%	\$8,156,024	88.8%	\$9,185,727
445292	Confectionery and NutStores	\$1,791,353	23.8%	\$5,733,879	76.2%	\$7,525,231
445220	Fish and Seafood Markets	\$5,163,907	99.0%	\$50,493	1.0%	\$5,214,400
Total		\$1,081,976,041	53.6%	\$935,846,646	46.4%	\$2,017,822,686

# Advanced Manufacturing

From the 2018 NAICS Manual, advanced manufacturing businesses are described as those establishments primarily engaged in the advanced manufacturing of buildings or engineering projects (e.g., highways and utility systems), establishments primarily engaged in the preparation of sites for new advanced manufacturing, and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector. Activities of these establishments generally are managed at a fixed place of business, but they usually perform advanced manufacturing activities at multiple project sites. For this cluster, we include ancillary industry sectors that support advanced manufacturing, such as wholesalers and telecommunications services.

Advanced manufacturing industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Advanced manufacturing industries generally require many more middle-skill jobs than most other industries. These middle-skill jobs are in high demand nationwide, and are a particular strength of the Prince George's County economy. Nine-teen industry sectors make up the Advanced manufacturing cluster in Prince George's County. See Table 4.4.1 below for the full list of industry sectors. Table 4.4.1 provides an overview for each of the individual industry sectors that comprise the Advanced manufacturing cluster turing cluster in Prince George's County.

Included are historic, current, and projected employment; historic and projected average annual percent growth (or decline); historic and current employment concentration (LQ); average earnings; gross regional product (GRP); and jobs multipliers. The table is sorted largest to smallest by 2018 sector contribution to GRP. The advanced manufacturing cluster accounted for nearly 4,000 jobs in 2018. This cluster is 2.36 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years following the recession. However, the industry is expected to experience weaker than average growth (see Table 4.4.1 above) of only 2.3% in total over the next five years. If nothing changes, adding jobs in this cluster will remain a challenge.

Among cluster industries, commercial printing (except screen and books) is the largest employing sector in this cluster and has maintained steady employment, adding jobs in the years following the recession increasing 11.4% from 2013 to 2018. Between 2013 and 2018, Prince George's County moved away from some advanced manufacturing industries and into others. Illustrated in Table 4.4.1.

Historically, Prince George's County businesses in this advanced manufacturing cluster have paralleled the decline experienced by the industry cluster throughout the state of Maryland, and the rest of the nation. The decline very much taking hold back in 2009, during the height of the recession. While advanced manufacturing is projected to continue its steady decline in the state and the rest of the nation, Prince George's County is projected to shake these negative employment trends and follow its recent and remain at a consistent growth rate. Figure 4.4.1 shows that the year-over-year (YOY) growth rate for Prince George's County was less than that of Maryland or the nation just prior to the recession (2007-2009) and did not rebounded until 2014. Projections show advanced manufacturing in Maryland will start to decline and the nation will continue its downward trend, that started back in 2015.

# TABLE 4.4.1. Advanced Manufacturing Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 JOBS	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % CHANGE	2018 Location Quotient	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
323111	Commercial Printing (except Screen and Books)	1,341	1,910	42.5%	1,969	3.1%	2.57	\$72,413	\$203,828,340	33.5%
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nauti- cal System and Instrument Manufacturing	430	447	4.1%	337	-24.6%	1.66	\$153,663	\$146,159,467	24.1%
332912	Fluid Power Valve and Hose Fitting Manufacturing	268	422	57.8%	528	25.1%	5.27	\$89,936	\$71,204,405	11.7%
323113	Commercial Screen Printing	206	330	60.8%	437	32.2%	1.77	\$60,964	\$27,095,987	4.5%
332323	Ornamental and Architectural Metal Work Manufacturing	132	160	21.4%	163	1.5%	1.67	\$67,124	\$13,930,842	2.3%
325510	Paint and CoatingManufacturing	123	147	19.3%	144	-1.8%	1.59	\$59,994	\$30,207,371	5.0%
332321	Metal Window and Door Manufacturing	80	99	23.2%	107	7.7%	0.68	\$69,390	\$8,560,869	1.4%
334220	Radio and Television Broadcasting and Wireless Communica- tions Equipment Manufacturing	102	90	-11.6%	97	8.2%	0.83	\$64,652	\$23,064,328	3.8%
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	340	83	-75.5%	38	-54.9%	1.68	\$99,423	\$13,797,038	2.3%
336411	Aircraft Manufacturing	225	43	-80.8%	11	-73.5%	0.08	\$141,963	\$14,497,309	2.4%
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	56	41	-26.4%	27	-35.5%	0.22	\$78,696	\$5,028,105	0.8%
325180	Other Basic Inorganic Chemical Manufacturing	36	37	2.6%	37	-0.7%	0.42	\$161,416	\$25,847,592	4.3%
323117	Books Printing	96	31	-68.2%	15	-49.8%	0.73	\$73,113	\$3,967,852	0.7%
336390	Other Motor Vehicle Parts Manufacturing	5	30	498.9%	39	31.1%	0.08	\$48,626	\$2,251,664	0.4%
333914	Measuring, Dispensing, and Other Pumping Equipment Manufac- turing	38	24	-36.2%	27	12.0%	0.37	\$94,664	\$5,927,998	1.0%
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	47	22	-53.7%	11	-48.9%	0.26	\$127,243	\$5,322,856	0.9%
323120	Support Activities for Printing	14	19	37.3%	11	-41.8%	0.34	\$68,092	\$1,997,379	0.3%
334519	Other Measuring and Controlling Device Manufacturing	<10	6	-	14	141.1%	0.14	\$57,873	\$2,369,933	0.4%
334413	Semiconductor and Related Device Manufacturing	1	1	0.0%	22	2112.0%	0.04	\$62,845	\$2,621,578	0.4%
	Totals for Cluster	3,540	3,944	11.4%	4,035	2.3%	2.36	\$85,042	\$607,680,912	100.0%



#### FIGURE 4.4.1. Advanced Manufacturing Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2dataset

## LABOR MARKET GAP ANALYSIS

Table 4.4.2 lists the top 25 occupations in advanced manufacturing. These occupations account for 65% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 4% of the people in these occupations in the region. The other 96% are employed by industry sectors outside of the Advanced manufacturing sector.

The occupations with the most jobs in the advanced manufacturing cluster are printing press operators. Comprising more than 14% of

the cluster's total jobs. Operators make an hourly wage of \$21.84 and, as shown in Table 5 on the next page, an educational requirement of a high school diploma or its equivalent. At more than \$67. per hour, aerospace engineers are paid the most, but only make up nearly 3% of the total cluster job count.

Further, as shown in Table 4.4.3, seven of the top 25 occupations typically require higher than a high school diploma or its equivalent, and the remaining is typically require a high school diploma or no formal education for many. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) What makes most of these occupations valuable, however, is the on-the-job training or apprenticeships required. These occupations are considered to be middle-skill occupations. People who have the necessary experience

# TABLE 4.4.2. Largest Occupations Specific to Advanced Manufacturing

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT Workers (2018)	NET Commuters (2018)
51-5112	Printing Press Operators	395	558	41.2%	598	7.2%	14.2%	686	351	285
51-5111	Prepress Technicians and Workers	129	179	39.1%	175	-1.9%	4.5%	202	100	107
51-5113	Print Binding and Finishing Workers	129	178	37.8%	193	8.3%	4.5%	206	117	70
43-4051	Customer Service Representatives	125	166	32.5%	175	5.9%	4.2%	5,575	6,020	-672
51-1011	First-Line Supervisors of Production and Operating Workers	118	137	16.4%	145	6.0%	3.5%	707	614	37
51-2022	Electrical and Electronic Equipment Assemblers	134	131	-2.6%	101	-22.4%	3.3%	278	196	106
11-1021	General and Operations Managers	100	123	23.1%	128	4.6%	3.1%	6,117	10,678	-4,862
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	89	111	23.6%	118	6.9%	2.8%	2,279	1,823	296
17-2011	Aerospace Engineers	142	107	-24.6%	67	-37.6%	2.7%	852	618	254
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	76	89	16.6%	94	5.7%	2.3%	6,734	5,358	1,199
43-5071	Shipping, Receiving, and Traffic Clerks	73	84	15.7%	88	3.9%	2.1%	1,205	1,123	67
51-9198	HelpersProduction Workers	63	76	22.3%	81	5.4%	1.9%	341	313	-1
27-1024	Graphic Designers	55	72	31.2%	78	7.6%	1.8%	499	794	-339
43-9061	Office Clerks, General	50	58	17.4%	61	4.7%	1.5%	7,762	9,489	-2,373
51-2092	Team Assemblers	62	54	-13.6%	60	10.7%	1.4%	359	363	-46
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	42	50	17.9%	51	2.1%	1.3%	8,953	10,789	-2,296
43-1011	First-Line Supervisors of Office and Administrative Support Workers	38	48	26.1%	50	4.1%	1.2%	4,763	5,298	-833
41-3099	Sales Representatives, Services, All Other	35	48	35.5%	50	5.6%	1.2%	3,115	3,759	-738
53-3033	Light Truck or Delivery Services Drivers	32	45	40.6%	48	6.4%	1.2%	4,742	3,285	1,224
51-2099	Assemblers and Fabricators, All Other	45	45	0.1%	45	-0.1%	1.1%	705	395	263
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	31	44	40.7%	43	-1.5%	1.1%	397	676	-241
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	47	42	-9.0%	45	6.9%	1.1%	330	447	-153
43-3031	Bookkeeping, Accounting, and Auditing Clerks	35	40	12.6%	40	-0.1%	1.0%	3,130	3,986	-888
15-1133	Software Developers, Systems Software	46	39	-15.7%	31	-19.3%	1.0%	1,661	2,208	-536
17-2141	Mechanical Engineers	46	39	-15.4%	38	-2.2%	1.0%	687	779	-160
Total		2,137	2,562	19.9%	2,604	1.6%	65.0%	62,284	69,578	-10,230

\* Employed in Region column is employment for all industries, not just for Food and beverage manufacturing

# TABLE 4.4.3. Advanced Manufacturing Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
17-2011	Aerospace Engineers	\$67.89	Bachelor's degree	None	156	58	50	8
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
15-1133	Software Developers, Systems Software	\$56.99	Bachelor's degree	None	1782	118	109	9
17-2141	Mechanical Engineers	\$49.90	Bachelor's degree	None	410	48	39	9
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$31.91	High school diploma or equivalent	Moderate-term on-the-job training	4	245	220	25
51-1011	First-Line Supervisors of Production and Operating Workers	\$31.81	High school diploma or equivalent	None	146	73	66	7
51-5111	Prepress Technicians and Workers	\$27.47	Postsecondarynondegreeaward	None	22	27	25	2
51-5113	Print Binding and Finishing Workers	\$24.44	High school diploma or equivalent	Moderate-term on-the-job training	0	29	26	3
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
27-1024	Graphic Designers	\$23.17	Bachelor's degree	None	38	51	44	7
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
51-5112	Printing Press Operators	\$21.84	High school diploma or equivalent	Moderate-term on-the-job training	0	80	69	11
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$20.95	High school diploma or equivalent	Moderate-term on-the-job training	0	44	40	4
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
51-2022	Electrical and Electronic Equipment Assemblers	\$19.23	High school diploma or equivalent	Moderate-term on-the-job training	0	44	39	5
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
43-5071	Shipping, Receiving, and Traffic Clerks	\$18.53	High school diploma or equivalent	Short-term on-the-job training	0	128	124	5
43-9051	Mail Clerks and Mail Machine Operators, Except Postal Service	\$17.71	High school diploma or equivalent	Short-term on-the-job training	0	53	50	3
53-3033	Light Truck or Delivery Services Drivers	\$17.20	High school diploma or equivalent	Short-term on-the-job training	0	505	462	43
51-2099	Assemblers and Fabricators, All Other	\$15.75	High school diploma or equivalent	Moderate-term on-the-job training	0	88	75	14
51-2092	Team Assemblers	\$13.73	High school diploma or equivalent	Moderate-term on-the-job training	0	48	44	4
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.19	No formal educational credential	Short-term on-the-job training	0	943	901	43
51-9198	HelpersProduction Workers	\$11.75	High school diploma or equivalent	Short-term on-the-job training	0	54	50	4
Total		\$28.66			7248	6998	6477	521

and qualifications for middle-skill occupations are in the greatest demand across the nation. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.4.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.4.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. In addition to offering the most jobs in Prince George's County, Advanced manufacturing laborers also have both the greatest attrition and the largest number of new jobs.

# SUPPLY CHAIN ANALYSIS

Table 4.4.4., on the next page, provides an overview of the total demand met in Prince George's County for products made by companies in the advanced manufacturing industry cluster—worth just over \$1 Billion in the region. Table 4.4.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. We see that the companies in these sectors meet only 21% of Prince George's County demand for their products, while Prince George's County imports the other 79% of its needs for these products. This indicates potential markets for local suppliers. Aeronautical and nautical instrument manufacturing, for example, supply only 14% of total demand in that sector (\$111.3 million), while \$96 million of the total demand of Prince Georges County residents

and business other industry sectors that could expand upon the Prince George's County supply chain include the following:

- · Other motor vehicle parts manufacturing
- Aircraft manufacturing
- Semiconductor and related device manufacturing
- Wireless communication equipment manufacturing

Table 4.4.5. shows the amount of goods and services sold by Prince George's County advanced manufacturing companies both inside and outside the region. These companies sell almost \$1.2 billion of products or services, of which \$973 million is sold outside Prince George's County, or 82% of total sales. This is a substantial revenue boost and brings outside dollars into Prince George's County.

In summary, the advanced manufacturing cluster is not the largest industry cluster in the Prince George's County economy. However, industries in this cluster provide a significant boost of revenue for the county as an exporter.

Advanced manufacturing is diverse as it crosses into many different clusters and industries. It provides a sustainable yet nimble economic base to a community. There are significant opportunities other Prince George's County business (outside of advanced manufacturing) can tap into to further develop and expand their markets. The vast number of middle skills and occupations it employs is a direct result of this diverse cluster and ranging. There are plentiful good paying, livable wage jobs in this cluster.

Building up the industry, its supply chain, and offering a high quality of life for those employed in advanced manufacturing, are prime economic development efforts for Prince George's County and can capitalize on the strong foundation already present in the region. 
 TABLE 4.4.4. Advanced Manufacturing Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
323111	Commercial Printing (except Screen and Books)	\$82,163,649	19.1%	\$347,188,540	80.9%	\$429,352,189
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nauti- cal System and Instrument Manufacturing	\$15,099,605	7.7%	\$181,056,829	92.3%	\$196,156,434
332912	Fluid Power Valve and Hose Fitting Manufacturing	\$15,471,972	9.4%	\$149,337,219	90.6%	\$164,809,191
325510	Paint and CoatingManufacturing	\$11,146,827	16.8%	\$55,271,384	83.2%	\$66,418,211
323113	Commercial Screen Printing	\$11,662,385	20.4%	\$45,445,188	79.6%	\$57,107,573
325180	Other Basic Inorganic Chemical Manufacturing	\$9,585,059	21.7%	\$34,644,730	78.3%	\$44,229,789
332323	Ornamental and Architectural Metal Work Manufacturing	\$12,948,175	30.9%	\$28,914,015	69.1%	\$41,862,190
336411	Aircraft Manufacturing	\$10,352,505	29.5%	\$24,685,254	70.5%	\$35,037,759
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	\$8,284,192	24.5%	\$25,585,888	75.5%	\$33,870,080
334220	Radio and Television Broadcasting and Wireless Communica- tions Equipment Manufacturing	\$2,600,110	8.1%	\$29,652,262	91.9%	\$32,252,372
332321	Metal Window and Door Manufacturing	\$11,085,811	43.1%	\$14,639,399	56.9%	\$25,725,210
333914	Measuring, Dispensing, and Other Pumping Equipment Manufac- turing	\$2,995,485	23.6%	\$9,674,844	76.4%	\$12,670,329
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	\$5,210,009	42.2%	\$7,132,318	57.8%	\$12,342,327
336390	Other Motor Vehicle Parts Manufacturing	\$5,011,954	52.5%	\$4,538,448	47.5%	\$9,550,402
323117	Books Printing	\$6,057,818	72.5%	\$2,298,918	27.5%	\$8,356,736
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	\$1,834,572	23.6%	\$5,946,061	76.4%	\$7,780,633
334519	Other Measuring and Controlling Device Manufacturing	\$599,823	18.2%	\$2,698,156	81.8%	\$3,297,979
323120	Support Activities for Printing	\$824,861	25.8%	\$2,368,480	74.2%	\$3,193,341
334413	Semiconductor and Related Device Manufacturing	\$331,086	10.5%	\$2,812,596	89.5%	\$3,143,682
Total		\$213,265,898	18.0%	\$973,890,528	82.0%	\$1,187,156,427

Source: Emsi Developer 2018.2 dataset

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TABLE 4.4.5. Prince George's County Advanced Manufacturing Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
336411	Aircraft Manufacturing	\$10,352,506	5.1%	\$194,336,794	94.9%	\$204,689,300
323111	Commercial Printing (except Screen and Books)	\$82,163,649	62.8%	\$48,748,810	37.2%	\$130,912,459
334511	Search, Detection, Navigation, Guidance, Aeronautical, and Nauti- cal System and Instrument Manufacturing	\$15,099,605	13.6%	\$96,152,645	86.4%	\$111,252,250
336390	Other Motor Vehicle Parts Manufacturing	\$5,011,954	4.7%	\$100,986,996	95.3%	\$105,998,950
334413	Semiconductor and Related Device Manufacturing	\$331,086	0.4%	\$77,040,189	99.6%	\$77,371,276
334220	Radio and Television Broadcasting and Wireless Communica- tions Equipment Manufacturing	\$2,600,110	4.1%	\$61,248,721	95.9%	\$63,848,831
325510	Paint and Coating Manufacturing	\$11,146,620	23.2%	\$36,853,245	76.8%	\$47,999,866
332321	Metal Window and Door Manufacturing	\$11,085,810	27.2%	\$29,651,115	72.8%	\$40,736,926
325180	Other Basic Inorganic Chemical Manufacturing	\$9,584,915	27.5%	\$25,218,546	72.5%	\$34,803,461
333914	Measuring, Dispensing, and Other Pumping Equipment Manufac- turing	\$2,995,485	9.6%	\$28,239,971	90.4%	\$31,235,456
332323	Ornamental and Architectural Metal Work Manufacturing	\$12,948,175	43.2%	\$17,036,378	56.8%	\$29,984,553
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing	\$5,210,010	20.3%	\$20,426,075	79.7%	\$25,636,085
334519	Other Measuring and Controlling Device Manufacturing	\$599,823	2.4%	\$24,125,487	97.6%	\$24,725,310
323113	Commercial Screen Printing	\$11,662,385	51.0%	\$11,220,379	49.0%	\$22,882,764
332912	Fluid Power Valve and Hose Fitting Manufacturing	\$15,471,972	97.2%	\$448,471	2.8%	\$15,920,444
334515	Instrument Manufacturing for Measuring and Testing Electricity and Electrical Signals	\$1,834,571	15.0%	\$10,374,848	85.0%	\$12,209,419
323120	Support Activities for Printing	\$824,861	9.6%	\$7,723,994	90.4%	\$8,548,855
332994	Small Arms, Ordnance, and Ordnance Accessories Manufacturing	\$8,284,192	99.6%	\$32,006	0.4%	\$8,316,199
323117	Books Printing	\$6,057,818	88.8%	\$766,212	11.2%	\$6,824,030
Total		\$213,265,548	21.2%	\$790,630,883	78.8%	\$1,003,896,431

# **Construction and Real Estate**

From the 2018 NAICS Manual, construction and real estate businesses are described as those establishments primarily engaged in the construction and real estate of buildings or engineering projects (e.g., highways and utility systems), establishments primarily engaged in the preparation of sites for new construction and real estate, and establishments primarily engaged in subdividing land for sale as building sites also are included in this sector. Activities of these establishments generally are managed at a fixed place of business, but they usually perform construction and real estate activities at multiple project sites. For this cluster, we include ancillary industry sectors that support Construction and Real Estate, such as wholesalers and telecommunications services and rental and leasing services.

Construction and real estate industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Construction and real estate industries generally do not require much education but do require skills that can be taught on the job or in an apprenticeship program. These skills are in high demand nationwide and are a particular strength of the Prince George's County economy. Fifty-four industries make up the construction and real estate cluster in Prince George's County. See Table 4.5.1. below for the full list of industries.

Also included are historic, current, and projected employment; historic and projected average annual percent growth (or decline); historic and current employment concentration (LQ); average earnings; gross regional product (GRP); and jobs multipliers. The table is sorted largest to smallest by 2018 industry share of contribution to GRP. The construction and real estate cluster accounts for 41,666 jobs and is 1.83 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced job growth over the last five years as building activity picked up following the recession. However, the industry is expected to experience weaker than average growth over the next five years (see Table 4.5.1. above), a net total of 2.2% growth.

Plumbing, heating, and air conditioning contractors is the largest employing sector in this cluster and has maintained steady employment, adding jobs in the years following the recession. Painting and all covering contractors declined sharply – perhaps indicating a drop-off from an earlier period of significant activity in new home construction and real estate. Overall, the number of Prince George's County jobs in this cluster increased by 4.8% from 2013 to 2018.

Prince George's County's construction and real estate cluster has paralleled the state and nation. More recently trends have changed and Prince George's County has lagged both behind both in this area. Figure 4.5.1. shows year-over-year employment trends in Prince George's county, compared to the state and nation. Projections indicate these trends will continue at a similar rate.

# LABOR MARKET GAP ANALYSIS

Table 4.5.2. lists the top 25 occupations in construction and real estate. These occupations account for 66% of all cluster employment. The table provides the number of people employed by occupation in the cluster as well as the number of people employed in

TABLE 4.5.1. Construction and Real Estate Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 JOBS	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % Change	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
238220	Plumbing, Heating, and Air-ConditioningContractors	5,815	6,305	8.4%	6,543	3.8%	2.30	\$85,514	\$809,496,234	15.2%
238210	Electrical Contractors and Other Wiring Installation Contractors	4,616	4,855	5.2%	4,868	0.3%	2.09	\$89,264	\$670,117,807	12.6%
236118	Residential Remodelers	2,170	2,347	8.2%	2,619	11.6%	1.71	\$50,797	\$232,490,723	4.4%
236220	Commercial and Institutional Building Construction	1,676	2,141	27.7%	2,303	7.6%	1.33	\$80,709	\$270,982,689	5.1%
444110	Home Centers	2,153	2,070	-3.9%	2,082	0.6%	1.27	\$37,766	\$140,505,064	2.6%
531110	Lessors of Residential Buildings and Dwellings	1,630	1,601	-1.8%	1,558	-2.7%	1.54	\$53,470	\$264,489,962	5.0%
238990	All Other Specialty Trade Contractors	1,964	1,417	-27.8%	1,090	-23.1%	1.20	\$60,229	\$169,394,619	3.2%
238140	Masonry Contractors	1,005	1,408	40.0%	1,735	23.3%	3.25	\$63,217	\$135,040,229	2.5%
238290	Other Building Equipment Contractors	1,254	1,294	3.2%	1,434	10.8%	3.50	\$120,438	\$230,337,813	4.3%
238310	Drywall and Insulation Contractors	1,552	1,281	-17.5%	1,095	-14.5%	1.78	\$52,379	\$124,122,667	2.3%
531311	Residential Property Managers	1,307	1,207	-7.7%	1,268	5.1%	1.09	\$50,620	\$119,562,684	2.2%
444190	Other Building Material Dealers	1,348	1,091	-19.1%	1,116	2.3%	1.96	\$74,511	\$145,710,674	2.7%
237310	Highway, Street, and Bridge Construction	973	1,086	11.6%	1,191	9.7%	1.39	\$69,690	\$111,565,865	2.1%
238160	Roofing Contractors	1,143	1,079	-5.6%	1,000	-7.4%	1.93	\$72,500	\$126,700,686	2.4%
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	492	918	86.5%	1,096	19.4%	3.99	\$73,705	\$139,708,042	2.6%
238390	Other Building Finishing Contractors	851	827	-2.9%	880	6.4%	3.42	\$57,803	\$78,398,597	1.5%
238110	Poured Concrete Foundation and Structure Contractors	763	819	7.3%	809	-1.2%	1.38	\$56,949	\$74,673,577	1.4%
238350	Finish Carpentry Contractors	654	808	23.6%	854	5.7%	1.38	\$59,241	\$90,717,741	1.7%
238320	Painting and Wall CoveringContractors	1,027	797	-22.4%	699	-12.3%	1.02	\$40,656	\$78,935,482	1.5%
237130	Power and Communication Line and Related Structures Con- struction	452	738	63.5%	891	20.7%	1.60	\$76,361	\$81,561,766	1.5%
238910	Site Preparation Contractors	754	584	-22.5%	421	-28.0%	0.51	\$44,281	\$60,659,766	1.1%
237990	Other Heavy and Civil Engineering Construction	170	548	222.5%	699	27.4%	1.88	\$75,830	\$61,212,831	1.1%
237110	Water and Sewer Line and Related Structures Construction	382	537	40.8%	628	16.8%	1.22	\$74,603	\$57,801,383	1.1%
531210	Offices of Real Estate Agents and Brokers	549	506	-7.8%	383	-24.4%	0.49	\$52,055	\$107,393,179	2.0%
236115	New Single-Family Housing Construction (except For-Sale Builders)	355	440	23.8%	323	-26.5%	0.40	\$84,853	\$69,078,174	1.3%
238150	Glass and Glazing Contractors	492	404	-17.9%	367	-9.2%	2.24	\$70,460	\$45,676,788	0.9%
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	152	331	118.5%	431	29.9%	2.04	\$65,811	\$101,612,414	1.9%

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % CHANGE	2023 Jobs	2018- 2023 % Change	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
238120	Structural Steel and Precast Concrete Contractors	271	327	20.8%	383	17.2%	1.57	\$77,646	\$41,002,418	0.8%
238330	Flooring Contractors	336	290	-13.8%	265	-8.4%	0.91	\$40,418	\$28,493,596	0.5%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	141	266	89.6%	318	19.3%	1.61	\$82,697	\$95,543,122	1.8%
531312	Nonresidential Property Managers	283	266	-6.2%	277	4.2%	0.68	\$77,316	\$48,402,245	0.9%
238340	Tile and Terrazzo Contractors	370	252	-31.8%	219	-13.2%	1.16	\$56,703	\$26,588,760	0.5%
423320	Brick, Stone, and Related Construction Material Merchant Whole- salers	242	251	3.8%	252	0.4%	1.85	\$72,372	\$40,408,399	0.8%
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	237	227	-4.3%	207	-8.9%	0.49	\$46,957	\$77,331,208	1.5%
531390	Other Activities Related to Real Estate	174	220	26.3%	215	-2.2%	0.63	\$38,809	\$79,383,158	1.5%
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Whole-salers	209	215	3.0%	200	-7.0%	0.89	\$74,587	\$37,215,642	0.7%
236117	New Housing For-Sale Builders	162	206	26.7%	219	6.7%	1.33	\$124,334	\$40,378,130	0.8%
444120	Paint and Wallpaper Stores	120	198	64.6%	250	26.5%	2.07	\$59,499	\$19,754,439	0.4%
238190	Other Foundation, Structure, and Building Exterior Contractors	239	186	-22.2%	164	-11.7%	1.35	\$50,474	\$18,939,726	0.4%
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	164	159	-3.5%	149	-6.3%	1.06	\$84,098	\$30,910,826	0.6%
238130	FramingContractors	160	145	-9.3%	107	-26.0%	0.61	\$49,066	\$14,330,063	0.3%
541191	Title Abstract and Settlement Offices	184	131	-28.8%	71	-45.5%	0.79	\$63,452	\$17,928,820	0.3%
327331	Concrete Block and BrickManufacturing	96	118	23.6%	137	15.8%	2.54	\$72,772	\$19,283,339	0.4%
337212	Custom Architectural Woodwork and Millwork Manufacturing	44	103	131.7%	140	35.8%	1.83	\$89,607	\$17,733,098	0.3%
327390	Other Concrete Product Manufacturing	55	86	55.4%	104	20.8%	0.67	\$61,796	\$8,350,367	0.2%
236116	New Multifamily Housing Construction (except For-Sale Builders)	70	83	17.4%	91	10.1%	0.87	\$102,773	\$13,337,017	0.3%
541370	Surveying and Mapping (except Geophysical) Services	71	81	14.3%	83	3.4%	0.70	\$67,408	\$6,267,870	0.1%
237120	Oil and Gas Pipeline and Related Structures Construction	130	77	-40.4%	37	-51.9%	0.22	\$49,269	\$7,227,413	0.1%
332322	Sheet Metal Work Manufacturing	66	77	16.1%	49	-35.7%	0.30	\$57,736	\$6,387,593	0.1%
327320	Ready-Mix Concrete Manufacturing	52	71	36.5%	69	-3.8%	0.32	\$80,207	\$8,597,017	0.2%
237210	Land Subdivision	42	61	47.0%	57	-7.0%	0.57	\$71,696	\$8,491,727	0.2%
236210	Industrial Building Construction	39	58	48.1%	66	13.3%	0.14	\$49,582	\$5,157,987	0.1%
531320	Offices of Real Estate Appraisers	67	48	-29.2%	42	-12.5%	0.52	\$50,536	\$7,476,882	0.1%
562991	Septic Tank and Related Services	37	26	-29.6%	24	-9.6%	0.38	\$64,421	\$4,233,136	0.1%



#### FIGURE 4.5.1. Construction and Real Estate Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, the cluster employs 34% of the people in these 25 occupations in the region. The other 66% are employed by industries outside of the construction and real estate cluster.

The occupations with the most jobs in the construction and real estate cluster are construction laborers. These occupations comprise nearly 7% of the cluster's total jobs, however, they earn the second-lowesthourly wage (\$14.93) in the cluster and have no formal educational requirement. The highest wage earners – managers – require at minimum a bachelor's degree.

However, on-the-job training or apprenticeships are required. People who have the necessary experience and qualifications for these

skilled trade occupations are in great demand across the nation. Prince George's County has a large supply of these people, as demonstrated by the resident workers compared to jobs un Prince George's County in Table 4.5.2. above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work.

Table 4.5.3. shows the average annual openings (averaged over the past five years) for the top occupations in this cluster for Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Over 90% of annual openings are due to replacements (retirements or attrition). This indicates the importance of succession planning.

Table 4.5.3. Construction and real estate Occupational Openings

# TABLE 4.5.2. Largest Occupations Specific to Construction and Real Estate

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT Workers (2018)	NET Commuters (2018)
47-2061	Construction Laborers	3,034	3,200	5.5%	3,363	5.1%	7.7%	3,626	3,813	-404
47-2111	Electricians	2,480	2,594	4.6%	2,613	0.7%	6.2%	2,887	2,110	746
47-2031	Carpenters	2,450	2,427	-0.9%	2,448	0.9%	5.8%	2,611	2,783	-204
47-2152	Plumbers, Pipefitters, and Steamfitters	1,945	2,096	7.8%	2,177	3.9%	5.0%	2,382	1,656	612
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	1,909	2,021	5.9%	2,031	0.5%	4.9%	2,353	2,186	135
49-9021	Heating, Air Conditioning, and Refrigera- tion Mechanics and Installers	1,102	1,218	10.5%	1,293	6.2%	2.9%	1,451	985	367
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,141	1,175	3.0%	1,143	-2.7%	2.8%	8,953	10,789	-2,296
11-1021	General and Operations Managers	963	1,056	9.7%	1,083	2.5%	2.5%	6,117	10,678	-4,862
11-9021	Construction Managers	1,022	1,039	1.7%	1,017	-2.1%	2.5%	1,129	1,169	-23
41-2031	Retail Salespersons	1,019	986	-3.3%	1,028	4.2%	2.4%	9,955	10,732	-1,463
43-9061	Office Clerks, General	946	962	1.7%	960	-0.2%	2.3%	7,762	9,489	-2,373
49-9071	Maintenance and Repair Workers, General	930	913	-1.8%	918	0.5%	2.2%	3,955	4,443	-809
47-2141	Painters, Construction and Maintenance	1,042	894	-14.2%	841	-5.9%	2.1%	1,027	1,179	-99
47-4021	Elevator Installers and Repairers	817	850	4.1%	910	7.1%	2.0%	961	332	549
47-2211	Sheet Metal Workers	695	727	4.7%	723	-0.6%	1.7%	905	502	405
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	593	658	10.9%	689	4.8%	1.6%	6,734	5,358	1,199
47-2051	Cement Masons and Concrete Finishers	549	593	8.1%	603	1.6%	1.4%	617	568	39
41-3099	Sales Representatives, Services, All Other	529	577	9.2%	587	1.8%	1.4%	3,115	3,759	-738
41-9022	Real Estate Sales Agents	532	564	6.1%	535	-5.2%	1.4%	628	1,031	-373
13-1051	CostEstimators	512	543	6.1%	550	1.3%	1.3%	707	711	-17
47-2021	Brickmasons and Blockmasons	392	524	33.7%	631	20.4%	1.3%	641	347	163
43-3031	Bookkeeping, Accounting, and Auditing Clerks	531	519	-2.4%	500	-3.6%	1.2%	3,130	3,986	-888
11-9141	Property, Real Estate, and Community Association Managers	468	472	0.8%	470	-0.5%	1.1%	591	1,047	-462
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	367	461	25.5%	504	9.4%	1.1%	2,279	1,823	296
43-5081	Stock Clerks and Order Fillers	446	460	3.0%	481	4.7%	1.1%	5,922	5,506	17
Total		26,413	27,530	4.2%	28,099	2.1%	66.1%	80,436	86,985	-10,483

\* Employed in Region column is employment for all industries, not just for Construction and Real Estate

Source: Emsi Developer 2018.2 dataset

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# TABLE 4.5.3. Construction and Real Estate Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB TRAINING	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
11-9021	Construction Managers	\$42.94	Bachelor's degree	Moderate-term on-the-job training	4607	98	83	15
47-4021	Elevator Installers and Repairers	\$41.78	High school diploma or equivalent	Apprenticeship	0	114	91	23
13-1051	CostEstimators	\$34.72	Bachelor's degree	Moderate-term on-the-job training	4922	76	70	6
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$33.12	High school diploma or equivalent	None	84	259	232	27
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$31.91	High school diploma or equivalent	Moderate-term on-the-job training	4	245	220	25
49-9021	Heating, Air Conditioning, and Refrigera- tion Mechanics and Installers	\$29.47	Postsecondary nondegree award	Long-term on-the-job training	0	161	131	30
11-9141	Property, Real Estate, and Community Association Managers	\$27.72	High school diploma or equivalent	None	0	54	44	10
47-2111	Electricians	\$26.00	High school diploma or equivalent	Apprenticeship	74	358	334	24
47-2211	Sheet Metal Workers	\$25.74	High school diploma or equivalent	Apprenticeship	0	108	95	12
47-2152	Plumbers, Pipefitters, and Steamfitters	\$25.14	High school diploma or equivalent	Apprenticeship	0	287	238	49
47-2021	Brickmasons and Blockmasons	\$24.03	High school diploma or equivalent	Apprenticeship	0	71	44	27
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
47-2051	Cement Masons and Concrete Finishers	\$22.82	No formal educational credential	Moderate-term on-the-job training	0	85	69	16
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
49-9071	Maintenance and Repair Workers, General	\$21.65	High school diploma or equivalent	Moderate-term on-the-job training	0	395	344	51
41-9022	Real Estate Sales Agents	\$19.67	High school diploma or equivalent	Moderate-term on-the-job training	0	80	62	18
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
47-2031	Carpenters	\$18.66	High school diploma or equivalent	Apprenticeship	0	281	242	39
47-2141	Painters, Construction and Maintenance	\$17.18	No formal educational credential	Moderate-term on-the-job training	0	113	94	19
47-2061	Construction Laborers	\$14.93	No formal educational credential	Short-term on-the-job training	0	411	348	63
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.19	No formal educational credential	Short-term on-the-job training	0	943	901	43
43-5081	Stock Clerks and Order Fillers	\$12.46	High school diploma or equivalent	Short-term on-the-job training	0	747	696	51
41-2031	Retail Salespersons	\$12.07	No formal educational credential	Short-term on-the-job training	0	1470	1367	103
Total		\$25.46			14381	9507	8615	892

#### SUPPLY CHAIN ANALYSIS

Table 4.5.4., on the next page, provides a summary of the total demand met in Prince George's County by all Prince George's County residents and businesses for products made by companies in the construction and real estate industry cluster—worth a total of \$7.2 billion in the region. Table 4.5.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. Companies in this cluster meet almost 80% of Prince George's County demand for products, while only having to import the other 20% to meet industry needs. This market is already dominated by local suppliers, however, there is room in certain industries. New single family housing contractors, for example, supply 48% of its total demand of \$205 million. Industrial building contractors only meet 5% industry demand locally. Other industry sectors that could tap into the Prince George's County market include the following:

- New Housing For-Sale Builders
- Residential remodelers
- Structural steel and precast concrete contractors
- Framing contractors
- · Other foundation, structure, and building exterior contractors
- Drywall and insulation contractors
- Tile and terrazzo contractors
- Finish carpentry contractors
- All other specialty trade contractors
- Home centers
- Other heavy and civil engineering construction
- Concrete block and brick manufacturing
- Construction, mining, and forestry machinery and equipment rental and leasing

- Other commercial and industrial machinery and equipment rental and leasing
- Ready mix concrete manufacturing
- Oil and gasoline pipeline structures construction
- Sheet metal work manufacturing

Table 4.5.5. shows the amount of goods and services sold by Prince George's County construction and real estate companies both inside and outside the region. These companies sell almost \$9.9 billion of products or services, of which \$4.1 billion is sold outside Prince George's County. While this is a substantial revenue boost, it is only 42% of sales and an increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the construction and real estate cluster is the largest industry spear-headed by the private sector.

This industry cluster employs a wide range of skills and occupations, which pay living wages and which are in high demand, and often in short supply, across the country. However, Prince George's County has a surplus of people in these occupations who commute outside of Prince George's County for work. Building up the industry, its supply chain, and offering a high quality of life for those employed in Construction and Real Estate, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city. The one caveat to be cognizant of is that the Construction and real estate industry fluctuates more than many other clusters, with higher peaks and lower valleys than are seen by average economic conditions.

Unfortunately, the largest employing occupations barely pay the minimal survival budget according to the ALICE threshold of a single household.

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
238220	Plumbing, Heating, and Air-ConditioningContractors	\$547,459,896	37.6%	\$908,001,270	62.4%	\$1,455,461,166
238210	Electrical Contractors and Other Wiring Installation Contractors	\$486,381,722	40.4%	\$718,186,151	59.6%	\$1,204,567,873
531110	Lessors of Residential Buildings and Dwellings	\$591,787,395	91.2%	\$57,448,074	8.8%	\$649,235,469
236220	Commercial and Institutional Building Construction	\$378,559,198	77.7%	\$108,672,528	22.3%	\$487,231,726
236118	Residential Remodelers	\$197,236,611	47.2%	\$220,924,113	52.8%	\$418,160,724
238290	Other Building Equipment Contractors	\$91,632,447	22.1%	\$322,449,054	77.9%	\$414,081,501
238990	All Other Specialty Trade Contractors	\$197,455,132	64.8%	\$107,044,245	35.2%	\$304,499,377
531311	Residential Property Managers	\$249,221,210	84.8%	\$44,678,599	15.2%	\$293,899,809
531210	Offices of Real Estate Agents and Brokers	\$249,584,124	94.5%	\$14,484,189	5.5%	\$264,068,313
444190	Other Building Material Dealers	\$126,173,732	51.6%	\$118,182,796	48.4%	\$244,356,528
238140	Masonry Contractors	\$70,199,117	28.9%	\$172,457,287	71.1%	\$242,656,404
444110	Home Centers	\$157,410,487	66.8%	\$78,219,170	33.2%	\$235,629,657
238160	Roofing Contractors	\$93,441,818	41.0%	\$134,361,169	59.0%	\$227,802,987
238310	Drywall and Insulation Contractors	\$128,537,000	57.6%	\$94,570,109	42.4%	\$223,107,109
237310	Highway, Street, and Bridge Construction	\$185,055,668	92.3%	\$15,485,086	7.7%	\$200,540,754
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	\$39,847,302	20.4%	\$155,595,351	79.6%	\$195,442,653
531390	Other Activities Related to Real Estate	\$185,835,561	95.2%	\$9,383,007	4.8%	\$195,218,568
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	\$183,937,968	96.8%	\$6,105,430	3.2%	\$190,043,399
238350	Finish Carpentry Contractors	\$92,370,055	56.7%	\$70,655,398	43.3%	\$163,025,453
237130	Power and Communication Line and Related Structures Con- struction	\$112,407,745	76.7%	\$34,237,547	23.3%	\$146,645,292
238320	Painting and Wall CoveringContractors	\$112,511,199	79.3%	\$29,322,941	20.7%	\$141,834,140
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	\$73,163,113	51.8%	\$68,017,548	48.2%	\$141,180,661
238390	Other Building Finishing Contractors	\$41,106,828	29.2%	\$99,832,934	70.8%	\$140,939,762
238110	Poured Concrete Foundation and Structure Contractors	\$101,433,588	75.5%	\$32,865,950	24.5%	\$134,299,538
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	\$73,048,453	55.0%	\$59,655,773	45.0%	\$132,704,226
236115	New Single-Family Housing Construction (except For-Sale Builders)	\$98,340,204	79.2%	\$25,836,814	20.8%	\$124,177,018
531312	Nonresidential Property Managers	\$110,954,431	93.4%	\$7,853,073	6.6%	\$118,807,504

# TABLE 4.5.4. Construction and Real Estate Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
237990	Other Heavy and Civil Engineering Construction	\$72,647,754	66.1%	\$37,338,295	33.9%	\$109,986,049
238910	Site Preparation Contractors	\$99,197,314	91.0%	\$9,809,028	9.0%	\$109,006,342
237110	Water and Sewer Line and Related Structures Construction	\$93,106,226	89.6%	\$10,802,819	10.4%	\$103,909,045
238150	Glass and Glazing Contractors	\$34,672,898	42.2%	\$47,466,592	57.8%	\$82,139,490
238120	Structural Steel and Precast Concrete Contractors	\$44,493,201	60.4%	\$29,223,536	39.6%	\$73,716,737
236117	New Housing For-Sale Builders	\$35,672,067	49.1%	\$36,942,544	50.9%	\$72,614,611
423320	Brick, Stone, and Related Construction Material Merchant Whole- salers	\$26,567,121	47.0%	\$29,974,200	53.0%	\$56,541,321
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Whole- salers	\$44,697,265	85.9%	\$7,367,026	14.1%	\$52,064,291
238330	Flooring Contractors	\$47,768,608	93.3%	\$3,443,451	6.7%	\$51,212,059
238340	Tile and Terrazzo Contractors	\$31,559,842	66.0%	\$16,232,506	34.0%	\$47,792,348
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	\$13,677,530	31.6%	\$29,565,763	68.4%	\$43,243,293
337212	Custom Architectural Woodwork and Millwork Manufacturing	\$10,697,711	26.5%	\$29,698,618	73.5%	\$40,396,329
327331	Concrete Block and Brick Manufacturing	\$19,131,046	50.8%	\$18,506,145	49.2%	\$37,637,191
238190	Other Foundation, Structure, and Building Exterior Contractors	\$23,251,739	68.3%	\$10,795,877	31.7%	\$34,047,616
444120	Paint and Wallpaper Stores	\$14,211,899	42.9%	\$18,917,641	57.1%	\$33,129,540
327320	Ready-Mix Concrete Manufacturing	\$23,915,249	83.7%	\$4,672,295	16.3%	\$28,587,544
238130	FramingContractors	\$19,210,267	74.6%	\$6,551,333	25.4%	\$25,761,600
541191	Title Abstract and Settlement Offices	\$22,444,200	93.3%	\$1,599,512	6.7%	\$24,043,712
236116	New Multifamily Housing Construction (except For-Sale Builders)	\$22,025,913	91.8%	\$1,967,572	8.2%	\$23,993,485
332322	Sheet Metal Work Manufacturing	\$5,840,879	30.4%	\$13,351,258	69.6%	\$19,192,137
327390	Other Concrete Product Manufacturing	\$16,786,942	90.4%	\$1,787,903	9.6%	\$18,574,845
531320	Offices of Real Estate Appraisers	\$14,863,036	80.7%	\$3,562,295	19.3%	\$18,425,331
237210	Land Subdivision	\$13,970,952	91.7%	\$1,271,212	8.3%	\$15,242,164
237120	Oil and Gas Pipeline and Related Structures Construction	\$8,966,682	69.0%	\$4,026,214	31.0%	\$12,992,896
541370	Surveying and Mapping (except Geophysical) Services	\$7,317,409	63.5%	\$4,211,170	36.5%	\$11,528,579
236210	Industrial Building Construction	\$5,709,435	61.6%	\$3,560,713	38.4%	\$9,270,148
562991	Septic Tank and Related Services	\$7,548,146	90.7%	\$770,376	9.3%	\$8,318,522
Total		\$5,755,043,335	58.4%	\$4,097,941,501	41.6%	\$9,852,984,835

 TABLE 4.5.5.
 Construction and Real Estate Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
531110	Lessors of Residential Buildings and Dwellings	\$580,607,625	98.6%	\$7,997,246	1.4%	\$588,604,870
238220	Plumbing, Heating, and Air-ConditioningContractors	\$547,459,895	99.9%	\$815,785	0.1%	\$548,275,680
531210	Offices of Real Estate Agents and Brokers	\$247,152,969	50.6%	\$241,665,769	49.4%	\$488,818,738
238210	Electrical Contractors and Other Wiring Installation Contractors	\$486,381,722	99.9%	\$645,577	0.1%	\$487,027,298
236220	Commercial and Institutional Building Construction	\$378,559,198	93.0%	\$28,499,449	7.0%	\$407,058,646
531120	Lessors of Nonresidential Buildings (except Miniwarehouses)	\$182,170,030	52.1%	\$167,714,203	47.9%	\$349,884,233
531390	Other Activities Related to Real Estate	\$183,755,322	58.5%	\$130,130,686	41.5%	\$313,886,008
531311	Residential Property Managers	\$244,011,926	98.5%	\$3,822,517	1.5%	\$247,834,443
444110	Home Centers	\$157,410,487	69.1%	\$70,284,625	30.9%	\$227,695,112
236115	New Single-Family Housing Construction (except For-Sale Builders)	\$98,340,204	47.9%	\$107,024,230	52.1%	\$205,364,434
238910	Site Preparation Contractors	\$99,197,314	48.7%	\$104,652,530	51.3%	\$203,849,844
238990	All Other Specialty Trade Contractors	\$197,455,132	99.0%	\$2,011,752	1.0%	\$199,466,885
236118	Residential Remodelers	\$197,236,611	99.3%	\$1,444,403	0.7%	\$198,681,013
237310	Highway, Street, and Bridge Construction	\$185,055,668	98.1%	\$3,556,965	1.9%	\$188,612,633
531312	Nonresidential Property Managers	\$109,503,740	70.6%	\$45,527,236	29.4%	\$155,030,975
444190	Other Building Material Dealers	\$126,173,732	87.1%	\$18,654,689	12.9%	\$144,828,421
327320	Ready-Mix Concrete Manufacturing	\$23,915,249	18.0%	\$108,863,751	82.0%	\$132,778,999
238310	Drywall and Insulation Contractors	\$128,537,000	99.4%	\$818,025	0.6%	\$129,355,025
238320	Painting and Wall CoveringContractors	\$112,511,199	97.1%	\$3,357,927	2.9%	\$115,869,126
237130	Power and Communication Line and Related Structures Con- struction	\$112,407,745	97.4%	\$2,967,077	2.6%	\$115,374,822
236210	Industrial Building Construction	\$5,709,435	5.1%	\$106,612,646	94.9%	\$112,322,081
238110	Poured Concrete Foundation and Structure Contractors	\$101,433,588	96.9%	\$3,200,350	3.1%	\$104,633,939
237110	Water and Sewer Line and Related Structures Construction	\$93,106,226	96.0%	\$3,851,624	4.0%	\$96,957,850
237120	Oil and Gas Pipeline and Related Structures Construction	\$8,966,682	9.3%	\$87,516,163	90.7%	\$96,482,845
238160	Roofing Contractors	\$93,441,818	99.9%	\$114,036	0.1%	\$93,555,854
238350	Finish Carpentry Contractors	\$92,370,055	99.6%	\$359,480	0.4%	\$92,729,534
238290	Other Building Equipment Contractors	\$91,632,447	100.0%	\$17,386	0.0%	\$91,649,833
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	\$73,048,454	92.2%	\$6,199,012	7.8%	\$79,247,466

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMAND MET By Imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
532490	Other Commercial and Industrial Machinery and Equipment Rental and Leasing	\$73,163,113	93.3%	\$5,264,096	6.7%	\$78,427,209
332322	Sheet Metal Work Manufacturing	\$5,840,879	7.6%	\$70,829,873	92.4%	\$76,670,752
237990	Other Heavy and Civil Engineering Construction	\$72,647,754	97.3%	\$2,029,535	2.7%	\$74,677,288
238140	Masonry Contractors	\$70,199,117	99.5%	\$372,493	0.5%	\$70,571,609
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Whole-salers	\$44,697,265	87.0%	\$6,705,601	13.0%	\$51,402,866
238330	Flooring Contractors	\$47,768,608	93.3%	\$3,450,109	6.7%	\$51,218,716
423720	Plumbing and Heating Equipment and Supplies (Hydronics) Merchant Wholesalers	\$39,847,302	80.3%	\$9,804,264	19.7%	\$49,651,566
238120	Structural Steel and Precast Concrete Contractors	\$44,493,201	99.6%	\$197,215	0.4%	\$44,690,416
238390	Other Building Finishing Contractors	\$41,106,828	99.9%	\$34,265	0.1%	\$41,141,093
327390	Other Concrete Product Manufacturing	\$16,786,941	41.3%	\$23,823,333	58.7%	\$40,610,274
423730	Warm Air Heating and Air-Conditioning Equipment and Supplies Merchant Wholesalers	\$13,677,530	36.7%	\$23,582,112	63.3%	\$37,259,641
238130	FramingContractors	\$19,210,268	52.9%	\$17,131,062	47.1%	\$36,341,330
236117	New Housing For-Sale Builders	\$35,672,067	99.0%	\$362,320	1.0%	\$36,034,387
238150	Glass and Glazing Contractors	\$34,672,898	99.6%	\$150,351	0.4%	\$34,823,249
238340	Tile and Terrazzo Contractors	\$31,559,842	95.3%	\$1,560,197	4.7%	\$33,120,040
531320	Offices of Real Estate Appraisers	\$14,712,958	44.7%	\$18,201,601	55.3%	\$32,914,559
237210	Land Subdivision	\$13,970,952	42.9%	\$18,616,927	57.1%	\$32,587,879
423320	Brick, Stone, and Related Construction Material Merchant Whole- salers	\$26,567,121	99.6%	\$107,583	0.4%	\$26,674,703
541191	Title Abstract and Settlement Offices	\$22,444,200	87.9%	\$3,095,963	12.1%	\$25,540,162
541370	Surveying and Mapping (except Geophysical) Services	\$7,317,409	29.3%	\$17,620,265	70.7%	\$24,937,674
238190	Other Foundation, Structure, and Building Exterior Contractors	\$23,251,738	95.0%	\$1,228,474	5.0%	\$24,480,212
236116	New Multifamily Housing Construction (except For-Sale Builders)	\$22,025,913	96.5%	\$798,381	3.5%	\$22,824,294
444120	Paint and Wallpaper Stores	\$14,211,899	67.1%	\$6,961,226	32.9%	\$21,173,126
337212	Custom Architectural Woodwork and Millwork Manufacturing	\$10,697,711	54.9%	\$8,800,471	45.1%	\$19,498,182
327331	Concrete Block and Brick Manufacturing	\$19,131,047	100.0%	\$3,006	0.0%	\$19,134,053
562991	Septic Tank and Related Services	\$7,548,146	60.6%	\$4,906,431	39.4%	\$12,454,577
Total		\$5,730,774,178	79.2%	\$1,503,962,289	20.8%	\$7,234,736,467

Source: Emsi Developer 2018.2 dataset

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# Professional, Scientific, Technical

The professional, scientific, and technical services cluster comprises establishments that specialize in performing professional, scientific, and technical activities for others. These activities require a high degree of expertise and training. The establishments in this cluster specialize according to expertise and provide these services to clients in a variety of industries. Activities performed include: legal advice and representation; accounting, bookkeeping, and payroll services; architectural, engineering, and specialized design services; computer services; consulting services; research services; advertising services; photographic services; translation and interpretation services; veterinary services; and other professional, scientific, and technical services. The distinguishing feature of the professional, scientific, and technical services cluster is the fact that most of the industries grouped in it have production processes that are dependent on worker skills. Thus, the establishments classified in this cluster sell expertise. Much of the expertise requires a high level of education, most often a degree, however, not in every case.

Professional, scientific, and technical services cluster industries typically pay well and require a high degree of experience and education. Demand across the whole of the key Prince George's County clusters for more professional, scientific, and technical services will continue to grow. Attracting more of these professionals should be considered to be a key focus for economic development efforts. Fourteen industry sectors make up the professional, scientific, and technical services cluster in Prince George's County. See Table 4.6.1. below for the full list of industry sectors. Table 4.6.1 provides an overview for each of the individual industries within that comprise the professional, scientific, and technical services cluster in Prince George's County.

The professional, scientific, technical cluster accounted for 13,299 jobs in 2018, and is 1.45 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years as building activity picked up following the recession and is expected to experience weaker, but still exceptionally strong growth (see Table 4.6.1. above) of 10.1% in total over the next five years.

Among cluster industries, engineering services is the largest employing sector in this cluster and has maintained steady employment, adding jobs in the years following the recession. Between 2013 and 2018, Prince George's County moved away from some professional, scientific, technical industries and into others. Environmental Consulting Services declined sharply. However, nearly all Engineering and Research activity saw significant increases in employment following the recession. Overall, the number of Prince George's County jobs in this cluster increased by 26.4% from 2013 to 2018.

Historically, Prince George's County businesses in this professional, scientific, technical cluster has shown a different path to that of the growth and decline experienced by similar industry clusters throughout the state of Maryland and the US. From 2005 till 2013, Prince George's County professional, scientific, technical activity has been much stronger than for the US. Prince George's County Professional, scientific, technical activity declined, where the state and nation continued to add job to the Professional, scientific, technical sectors, even during the recession. Figure 4.6.1. shows that the year-over-year (YOY) growth rate for Prince George's County did not experience growth in the trends until 2013, but since it has

## TABLE 4.6.1. Professional, Scientific, Technical Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % Change	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
541330	Engineering Services	3,356	4,247	26.6%	4,767	12.2%	1.86	\$111,022	\$540,637,805	31.1%
541110	Offices of Lawyers	1,834	1,665	-9.2%	1,672	0.4%	0.59	\$80,505	\$271,152,828	15.6%
551114	Corporate, Subsidiary, and Regional Managing Offices	1,454	1,506	3.5%	1,348	-10.4%	0.30	\$126,075	\$228,015,356	13.1%
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	662	1,366	106.4%	1,643	20.3%	1.44	\$126,262	\$189,434,755	10.9%
541690	Other Scientific and Technical Consulting Services	605	939	55.2%	1,231	31.2%	1.66	\$81,296	\$88,551,568	5.1%
541219	Other Accounting Services	745	837	12.3%	916	9.4%	0.98	\$96,304	\$117,948,921	6.8%
551112	Offices of Other Holding Companies	42	807	1821.0%	1,143	41.7%	4.79	\$36,602	\$31,675,942	1.8%
541990	All Other Professional, Scientific, and Technical Services	385	583	51.3%	659	13.0%	0.98	\$55,955	\$92,433,728	5.3%
541211	Offices of Certified Public Accountants	434	413	-5.0%	413	0.1%	0.36	\$76,461	\$47,136,317	2.7%
813920	Professional Organizations	350	323	-7.7%	303	-6.3%	1.61	\$96,097	\$37,486,416	2.2%
541714	Research and Development in Biotechnology (except Nanobio- technology)	263	318	21.0%	311	-2.1%	0.74	\$159,316	\$58,794,651	3.4%
541720	Research and Development in the Social Sciences and Human- ities	212	159	-25.1%	94	-40.7%	1.08	\$94,645	\$19,476,461	1.1%
541620	Environmental Consulting Services	162	120	-26.0%	121	1.5%	0.51	\$69,189	\$11,231,538	0.6%
541713	Research and Development in Nanotechnology	19	17	-11.5%	19	10.7%	0.31	\$113,095	\$2,201,137	0.1%
	Totals for Cluster	10,522	13,299	26.4%	14,641	10.1%	1.45	\$100,206	\$1,736,177,423	100.0%

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#### FIGURE 4.6.1. Professional, Scientific, Technical Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

increased YOY growth has been expanding rapidly and projected to do continue to do so over the next ten years.

## LABOR MARKET GAP ANALYSIS

Table 4.6.2. lists the top 25 occupations in professional, scientific, technical. These occupations account for 53% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 12% of the people in these occupations in the region. The other 88% are employed by industry sectors outside of the professional, scientific, technical sector.

The occupations with the most jobs in the professional, scientific, technical cluster are lawyers. These occupations comprise just over 5% of the cluster's total jobs and have the fourth-highest hourly wage (\$63.98), and as shown in Table 5 below, have an educational requirement of a doctorates or professional degree. At more than \$73 per an hour Architectural and Engineering Managers, are the highest paid in the cluster.

As shown in Table 4.6.3., three of the top 25 occupations typically require at the bare minimum, a bachelor's degree. The entrylevel requirement for many positions is a high school diploma or equivalent or a bachelor's degree. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) These occupations are considered to be high-skill occupations. People who have the necessary experience and qualifications for high-skill

## TABLE 4.6.2. Largest Occupations Specific to Professional, Scientific, Technical

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT Workers (2018)	NET Commuters (2018)
23-1011	Lawyers	784	697	-11.0%	689	-1.2%	5.2%	1,371	7,646	-6,274
17-2051	CivilEngineers	512	650	26.9%	734	12.8%	4.9%	1,164	1,153	-128
13-2011	Accountants and Auditors	539	630	16.9%	700	11.0%	4.7%	2,555	5,304	-2,968
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	385	439	14.2%	468	6.6%	3.3%	8,953	10,789	-2,296
11-1021	General and Operations Managers	274	357	30.5%	399	11.6%	2.7%	6,117	10,678	-4,862
17-2141	Mechanical Engineers	199	274	37.8%	322	17.5%	2.1%	687	779	-160
13-1111	ManagementAnalysts	219	270	23.7%	316	16.7%	2.0%	2,339	7,767	-5,620
43-3031	Bookkeeping, Accounting, and Auditing Clerks	245	268	9.2%	277	3.5%	2.0%	3,130	3,986	-888
15-2041	Statisticians	133	262	95.9%	302	15.4%	2.0%	1,554	1,163	198
15-1133	Software Developers, Systems Software	176	257	45.9%	283	10.3%	1.9%	1,661	2,208	-536
23-2011	Paralegals and Legal Assistants	259	252	-2.7%	267	6.1%	1.9%	490	1,645	-1,172
17-2011	Aerospace Engineers	159	248	56.6%	270	8.7%	1.9%	852	618	254
17-2071	Electrical Engineers	181	244	34.9%	273	12.0%	1.8%	569	581	-53
43-9061	Office Clerks, General	217	242	11.8%	265	9.4%	1.8%	7,762	9,489	-2,373
11-9041	Architectural and Engineering Managers	176	239	35.4%	266	11.3%	1.8%	605	874	-311
43-4051	Customer Service Representatives	174	236	35.5%	261	10.4%	1.8%	5,575	6,020	-672
43-1011	First-Line Supervisors of Office and Administrative Support Workers	175	222	26.7%	239	7.9%	1.7%	4,763	5,298	-833
43-6012	Legal Secretaries	230	214	-6.7%	217	1.3%	1.6%	289	852	-562
19-4099	Life, Physical, and Social Science Techni- cians, All Other	123	199	61.7%	206	3.3%	1.5%	1,619	1,087	465
17-3022	Civil Engineering Technicians	144	184	27.8%	201	8.8%	1.4%	303	202	68
11-9199	Managers, All Other	123	164	33.3%	180	9.9%	1.2%	2,924	7,855	-5,113
15-1121	Computer Systems Analysts	110	163	48.2%	187	15.0%	1.2%	1,688	2,608	-1,002
41-3099	Sales Representatives, Services, All Other	121	155	28.4%	176	13.3%	1.2%	3,115	3,759	-738
27-4021	Photographers	90	148	64.7%	172	16.0%	1.1%	306	338	-78
15-1142	Network and Computer Systems Admin- istrators	106	143	34.2%	150	5.2%	1.1%	1,452	2,061	-614
Total		5,854	7,160	22.3%	7,820	9.2%	53.8%	61,841	94,760	-36,268

\* Employed in Region column is employment for all industries, not just for Professional, scientific, technical

Source: Emsi Developer 2018.2dataset

## TABLE 4.6.3. Professional, Scientific, Technical Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL EDUCATION	TYPICAL ON-THE-JOB Training	ANNUAL COMPLETIONS	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-9041	Architectural and Engineering Managers	\$73.37	Bachelor's degree	None	1884	45	38	7
17-2011	Aerospace Engineers	\$67.89	Bachelor's degree	None	156	58	50	8
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
23-1011	Lawyers	\$63.98	Doctoral or professional degree	None	92	71	59	12
15-1133	Software Developers, Systems Software	\$56.99	Bachelor's degree	None	1782	118	109	9
11-9199	Managers, All Other	\$55.05	Bachelor's degree	None	4552	217	179	39
17-2071	Electrical Engineers	\$49.99	Bachelor's degree	None	258	40	33	7
17-2141	Mechanical Engineers	\$49.90	Bachelor's degree	None	410	48	39	9
15-2041	Statisticians	\$49.11	Master's degree	None	289	120	91	29
15-1121	Computer Systems Analysts	\$48.74	Bachelor's degree	None	1055	120	103	17
15-1142	Network and Computer Systems Admin- istrators	\$48.08	Bachelor's degree	None	2181	96	89	6
13-1111	ManagementAnalysts	\$44.78	Bachelor's degree	None	4462	213	178	36
17-2051	CivilEngineers	\$40.58	Bachelor's degree	None	187	95	72	23
13-2011	Accountants and Auditors	\$39.21	Bachelor's degree	None	888	234	208	26
43-6012	Legal Secretaries	\$37.90	High school diploma or equivalent	Moderate-term on-the-job training	0	34	32	2
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
23-2011	Paralegals and Legal Assistants	\$33.76	Associate's degree	None	114	52	48	4
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
19-4099	Life, Physical, and Social Science Techni- cians, All Other	\$27.63	Associate's degree	None	0	185	169	16
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
43-6014	Secretaries and Administrative Assistants, ExceptLegal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
17-3022	Civil Engineering Technicians	\$22.07	Associate's degree	None	0	29	22	7
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
27-4021	Photographers	\$12.71	High school diploma or equivalent	Long-term on-the-job training	22	28	19	8
Total		\$43.28			23022	6164	5585	579

occupations are often unavailable or hard to attain, often due to a high demand and low supply. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in Table 4.6.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.6.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Professional, scientific, technical laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

## SUPPLY CHAIN ANALYSIS

Table 4.6.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the Professional, scientific, technical industry cluster—worth a total of nearly \$3.8 Billion in the region. Table 4.6.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 6, we see that the companies in these sectors meet slightly more than half of Prince George's County demand for their products, while Prince George's County imports the other half of its needs for these products. This would seem to indicate potential markets for local suppliers. Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology), for example, supply 64.3% of local demand, sup-

plying about \$364 million of total local demand of \$566 million, while \$202 million is purchased by Prince George's County residents and businesses from outside the region. Other industry sectors that could tap into the Prince George's County market include the following:

- · Offices of Lawyers
- · Offices of Certified Public Accountants
- Research and Development in Biotechnology (except Nano biotechnology)
- Research and Development in the Social Sciences and Humanities
- All Other Professional, Scientific, and Technical Services

Table 4.6.5. shows the amount of goods and services sold by Prince George's County Health and social services companies both inside and outside the region. These companies sell almost \$2.9 billion of products or services, of which not quite \$1 billion is sold outside Prince George's County. While this is a substantial revenue boost, it is only 33% of sales and an increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the professional, scientific, technical cluster is the third largest industry cluster in the Prince George's County economy. The cluster is already a high value exporter, but has the potential to be much more. This industry cluster employs middle to high skill occupations, which pay a living to high paying wage. The highest paying occupation being Architectural and Engineering Managers, paying a median hourly wage of \$73.37. Building up the industry, its supply chain, and offering a high quality of life for those employed in Professional, scientific, technical, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city. TABLE 4.6.4. Professional, Scientific, Technical Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
541330	Engineering Services	\$744,062,852	74.8%	\$250,376,021	25.2%	\$994,438,873
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	\$364,240,740	88.5%	\$47,332,267	11.5%	\$411,573,007
551114	Corporate, Subsidiary, and Regional Managing Offices	\$62,358,544	15.3%	\$344,948,293	84.7%	\$407,306,837
541110	Offices of Lawyers	\$303,943,940	83.6%	\$59,686,081	16.4%	\$363,630,021
541219	Other Accounting Services	\$77,211,235	51.6%	\$72,311,451	48.4%	\$149,522,686
541990	All Other Professional, Scientific, and Technical Services	\$72,890,416	53.7%	\$62,895,467	46.3%	\$135,785,883
541714	Research and Development in Biotechnology (except Nanobio- technology)	\$101,827,545	79.7%	\$25,919,432	20.3%	\$127,746,977
541690	Other Scientific and Technical Consulting Services	\$66,682,518	52.8%	\$59,707,912	47.2%	\$126,390,430
541211	Offices of Certified Public Accountants	\$54,982,140	92.0%	\$4,771,348	8.0%	\$59,753,488
551112	Offices of Other Holding Companies	\$41,639,071	73.6%	\$14,969,962	26.4%	\$56,609,033
813920	Professional Organizations	\$35,507,002	68.4%	\$16,367,433	31.6%	\$51,874,435
541720	Research and Development in the Social Sciences and Human- ities	\$26,594,070	62.8%	\$15,720,089	37.2%	\$42,314,159
541620	Environmental Consulting Services	\$14,381,951	89.7%	\$1,649,303	10.3%	\$16,031,254
541713	Research and Development in Nanotechnology	\$1,520,138	31.8%	\$3,262,354	68.2%	\$4,782,492
Total		\$1,967,842,162	66.8%	\$979,917,413	33.2%	\$2,947,759,574

TABLE 4.6.5. Prince George's County Professional, Scientific, Technical Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMANDMET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By Imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
551114	Corporate, Subsidiary, and Regional Managing Offices	\$62,358,545	7.1%	\$818,426,486	92.9%	\$880,785,031
541330	Engineering Services	\$744,062,852	99.2%	\$5,912,612	0.8%	\$749,975,464
541110	Offices of Lawyers	\$303,943,940	43.0%	\$403,425,615	57.0%	\$707,369,555
541715	Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)	\$364,240,739	64.3%	\$201,921,318	35.7%	\$566,162,057
541714	Research and Development in Biotechnology (except Nanobio- technology)	\$101,827,545	30.7%	\$229,643,669	69.3%	\$331,471,214
541211	Offices of Certified Public Accountants	\$54,982,140	33.6%	\$108,427,188	66.4%	\$163,409,328
541990	All Other Professional, Scientific, and Technical Services	\$72,890,416	62.1%	\$44,568,987	37.9%	\$117,459,403
541690	Other Scientific and Technical Consulting Services	\$66,682,518	80.5%	\$16,135,136	19.5%	\$82,817,654
541219	Other Accounting Services	\$77,211,235	93.8%	\$5,098,252	6.2%	\$82,309,487
541720	Research and Development in the Social Sciences and Human- ities	\$26,594,070	48.7%	\$27,985,422	51.3%	\$54,579,492
551112	Offices of Other Holding Companies	\$41,639,070	98.9%	\$456,437	1.1%	\$42,095,507
813920	Professional Organizations	\$35,507,002	95.0%	\$1,870,230	5.0%	\$37,377,232
541620	Environmental Consulting Services	\$14,381,951	48.1%	\$15,547,659	51.9%	\$29,929,610
541713	Research and Development in Nanotechnology	\$1,520,139	5.1%	\$28,268,558	94.9%	\$29,788,696
Total		\$1,967,842,161	50.8%	\$1,907,687,569	49.2%	\$3,875,529,730

Source: Emsi Developer 2018.2dataset

# **Education Cluster**

Industries within the education cluster typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Education industries generally require many more middle-skill jobs than most other industries. Seven industry sectors make up the education cluster in Prince George's County. See Table 4.7.1. below for the full list of industry sectors. Table 4.7.1. provides an overview for each of the individual industry sectors that comprise the Education cluster in Prince George's County.

The education cluster accounted for 51,180 jobs and is 3.04 times

more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years and the industry is expected to maintain, slightly less, but similar growth of 8.3% over the next five years (see Table 4.7.1).

Colleges, universities, and professional schools (state government) is the largest employing sector in this cluster and has maintained steady employment, adding jobs in the years following the recession. Colleges, universities, and professional schools (local government)

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % CHANGE	2023 Jobs	2018- 2023 % Change	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
903611	Elementary and Secondary Schools (Local Government)	19,312	20,220	4.7%	21,229	5.0%	1.23	\$81,565	\$1,632,595,218	46.9%
902612	Colleges, Universities, and Professional Schools (State Government)	23,462	27,406	16.8%	30,569	11.5%	4.50	\$59,993	\$1,589,946,538	45.7%
611710	Educational Support Services	807	1,179	46.1%	1,459	23.8%	2.78	\$85,895	\$111,989,127	3.2%
903612	Colleges, Universities, and Professional Schools (Local Govern- ment)	1,706	1,375	-19.4%	1,070	-22.2%	0.82	\$65,206	\$97,000,366	2.8%
611310	Colleges, Universities, and Professional Schools	437	560	28.1%	621	10.9%	0.12	\$41,542	\$26,103,039	0.7%
611430	Professional and Management Development Training	44	128	188.5%	124	-2.9%	1.15	\$88,712	\$14,679,004	0.4%
611513	Apprenticeship Training	253	312	23.2%	376	20.6%	8.82	\$32,598	\$10,337,847	0.3%
	Totals for Cluster	46,022	51,180	11.2%	55,448	8.3%	3.04	\$69,048	\$3,482,651,140	100.0%

#### TABLE 4.7.1.. Education Cluster Industry Employment Trends, Prince George's County



#### FIGURE 4.7.1. Education Cluster Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

(which are closely tied to local community colleges) declined sharply. Overall, the number of Prince George's County jobs in this cluster increased by 11.2% from 2013 to 2018.

Prince George's County's businesses in these education sectors have paralleled the growth and decline experienced by the industry cluster throughout the state of Maryland. Since 2005, Maryland education activity has been much stronger than for the US. Prince George's County education activity has been more volatile than the state's education industry, dropping steeply during downturns, but also improving dramatically and more quickly than the state's industry growth. Figure 4.7.1. shows that the year-over-year (YOY) growth rate for Prince George's County was less than that of Maryland or the nation just prior to the recession (2007-2009) and rebounded much more rapidly in 2013. Projections show education in Maryland will remain strong, while the education industry in Prince George's County will grow more than for the nation but less than in Maryland, miring the projections for the state.

# LABOR MARKET GAP ANALYSIS

Table 4.7.2. lists the top 25 occupations in education. These occupations account for 70% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occu-

## TABLE 4.7.2. Largest Occupations, Education Cluster

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
25-1099	Postsecondary Teachers	7,999	8,328	4.1%	8,944	7.4%	16.3%	9,047	9,550	-1,287
25-2021	Elementary School Teachers, Except Spe- cial Education	4,320	4,320	0.0%	4,531	4.9%	8.4%	5,076	4,252	556
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	3,117	3,117	0.0%	3,383	8.5%	6.1%	8,953	10,789	-2,296
43-9061	Office Clerks, General	2,684	2,684	0.0%	3,014	12.3%	5.2%	7,762	9,489	-2,373
25-9041	Teacher Assistants	2,212	2,212	0.0%	2,397	8.3%	4.3%	2,904	3,306	-637
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	1,821	1,821	0.0%	2,038	11.9%	3.6%	6,825	11,244	-5,023
25-3098	Substitute Teachers	1,782	1,782	0.0%	1,873	5.1%	3.5%	2,079	1,660	291
25-2031	Secondary School Teachers, Except Spe- cial and Career/Technical Education	1,712	1,712	0.0%	1,824	6.5%	3.3%	2,113	2,631	-645
25-9031	Instructional Coordinators	1,621	1,621	0.0%	1,702	5.0%	3.2%	2,260	1,765	371
11-9033	Education Administrators, Postsecondary	924	924	0.0%	974	5.4%	1.8%	1,001	1,110	-171
21-1012	Educational, Guidance, School, and Voca- tional Counselors	842	842	0.0%	904	7.4%	1.6%	1,101	1,223	-206
53-3022	Bus Drivers, School or Special Client	820	820	0.0%	847	3.2%	1.6%	1,444	1,797	-439
49-9071	Maintenance and Repair Workers, General	724	724	0.0%	818	12.9%	1.4%	3,955	4,443	-809
43-9199	Office and Administrative Support Workers, All Other	627	627	0.0%	736	17.4%	1.2%	956	1,584	-794
11-9032	Education Administrators, Elementary and Secondary School	513	513	0.0%	542	5.7%	1.0%	645	842	-232
15-1151	Computer User Support Specialists	508	508	0.0%	579	14.1%	1.0%	1,340	2,287	-1,058
43-3031	Bookkeeping, Accounting, and Auditing Clerks	461	461	0.0%	493	7.0%	0.9%	3,130	3,986	-888
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	438	438	0.0%	482	10.2%	0.9%	9,027	9,087	-1,424
25-2052	Special Education Teachers, Kindergarten and Elementary School	431	431	0.0%	455	5.7%	0.8%	486	632	-176
25-2054	Special Education Teachers, Secondary School	427	427	0.0%	448	4.8%	0.8%	478	537	-85
19-4099	Life, Physical, and Social Science Techni- cians, All Other	405	405	0.0%	425	4.8%	0.8%	1,619	1,087	465
13-1199	Business Operations Specialists, All Other	394	394	0.0%	434	10.0%	0.8%	2,665	10,995	-8,487
33-9099	Protective Service Workers, All Other	378	378	0.0%	404	6.9%	0.7%	774	835	-109
39-9011	Childcare Workers	355	355	0.0%	380	6.9%	0.7%	2,751	4,050	-1,210
35-2012	Cooks, Institution and Cafeteria	346	346	0.0%	361	4.5%	0.7%	854	1,115	-331
Total		35,862	36,190	0.9%	38,987	7.7%	70.7%	79,244	100,296	-26,997

\* Employed in Region column is employment for all industries, not just for Education

## TABLE 4.7.3. Occupational Openings, Education Cluster

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
25-1099	Postsecondary Teachers	\$31.79	Doctoral or professional degree	None	736	728	607	120
25-2021	Elementary School Teachers, Except Special Education	\$35.86	Bachelor's degree	None	98	414	339	75
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
25-9041	Teacher Assistants	\$16.08	Some college, no degree	None	0	314	272	42
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$12.17	No formal educational credential	Short-term on-the-job training	0	885	781	105
25-3098	Substitute Teachers	\$16.55	Bachelor's degree	None	79	243	212	31
25-2031	Secondary School Teachers, Except Spe- cial and Career/Technical Education	\$36.86	Bachelor's degree	None	205	170	138	32
25-9031	Instructional Coordinators	\$36.52	Master's degree	None	293	209	178	31
11-9033	Education Administrators, Postsecondary	\$46.87	Master's degree	None	124	80	67	13
21-1012	Educational, Guidance, School, and Vocational Counselors	\$33.32	Master's degree	None	43	118	103	15
53-3022	Bus Drivers, School or Special Client	\$20.58	High school diploma or equivalent	Short-term on-the-job training	0	189	157	32
49-9071	Maintenance and Repair Workers, General	\$21.65	High school diploma or equivalent	Moderate-term on-the-job training	0	395	344	51
43-9199	Office and Administrative Support Workers, All Other	\$20.81	High school diploma or equivalent	Short-term on-the-job training	0	100	80	20
11-9032	Education Administrators, Elementary and Secondary School	\$54.86	Master's degree	None	132	55	46	10
15-1151	Computer User Support Specialists	\$29.65	Some college, no degree	None	1359	109	91	18
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$10.19	No formal educational credential	Short-term on-the-job training	0	1483	1293	190
25-2052	Special Education Teachers, Kindergar- ten and Elementary School	\$34.98	Bachelor's degree	None	79	40	32	7
25-2054	Special Education Teachers, Secondary School	\$36.96	Bachelor's degree	None	79	39	32	7
19-4099	Life, Physical, and Social Science Techni- cians, All Other	\$27.63	Associate's degree	None	0	185	169	16
13-1199	Business Operations Specialists, All Other	\$45.64	Bachelor's degree	None	2	244	226	18
33-9099	Protective Service Workers, All Other	\$19.43	High school diploma or equivalent	Short-term on-the-job training	0	182	172	10
39-9011	Childcare Workers	\$9.27	High school diploma or equivalent	Short-term on-the-job training	52	454	437	18
35-2012	Cooks, Institution and Cafeteria	\$16.26	No formal educational credential	Short-term on-the-job training	0	120	109	11
Total		\$27.63			3337	9006	7961	1045

Source: Emsi Developer 2018.2 dataset

pations. Overall, the cluster employs 46% of the people in these 25 occupations in the region. The other 54% are employed by industry sectors outside of the education cluster.

The largest occupation in the education cluster is postsecondary teachers. This occupation comprises more than 16% of the cluster's total jobs. Postsecondary Teachers top ten hourly wage (\$31.79), and as shown in Table 5 below, have a doctorate or professional degree requirement. At more than \$54 per hour, Administrators, Elementary and Secondary School are paid the most.

As shown in Table 4.7.3., the entry-level requirement for many positions is a high school diploma or equivalent or a bachelor's degree. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) These occupations are considered to be middle to high skill occupations. People who have the necessary experience and qualifications for these specific occupations are in the greatest demand across the nation. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.7.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.7.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Education laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

#### SUPPLY CHAIN ANALYSIS

Table 4.7.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products and services offered by the Education industry cluster—worth a total of nearly \$3.4 Billion in the region. Table 4.7.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 4.7.4., we see that the companies in these sectors meet slightly more than 64% of Prince George's County demand for their products, while Prince George's County imports the other 36% of its needs for these products. This would seem to indicate potential markets for local suppliers. Colleges, Universities, and Professional Schools (Local Government), for example, supply 57% of local demand, supplying about \$93 million of total local demand of \$162million, while \$69 million is purchased by Prince George's County residents and businesses from outside the region.

Table 4.7.5. shows the amount of goods and services sold by Prince George's County Health and social services companies both inside and outside the region. These companies sell almost \$4.1 billion of products or services, of which over \$2.1 billion is sold outside Prince George's County. This adds a substantial revenue boost and there is added room for more industries in the cluster to become exporters, as the \$2.1 billion in exports is still only 52% of all total sales.

In summary, the education cluster is one of the smaller industry clusters in the Prince George's County economy. This industry cluster employs high skill occupations, which pay a living wage for its employees. Building up the industry, its supply chain, and offering a high quality of life for those employed in the education TABLE 4.7.4. Regional Demand Met by Prince George's County Companies, Education Cluster

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
902612	Colleges, Universities, and Professional Schools (State Govern- ment)	\$0	0.0%	\$1,861,664,462	100.0%	\$1,861,664,462
903611	Elementary and Secondary Schools (Local Government)	\$1,813,777,182	100.0%	\$0	0.0%	\$1,813,777,182
611710	Educational Support Services	\$60,750,914	31.3%	\$133,212,111	68.7%	\$193,963,025
903612	Colleges, Universities, and Professional Schools (Local Govern- ment)	\$0	0.0%	\$107,765,262	100.0%	\$107,765,262
611310	Colleges, Universities, and Professional Schools	\$37,645,993	87.8%	\$5,255,120	12.2%	\$42,901,113
611430	Professional and Management Development Training	\$24,796,666	97.5%	\$626,630	2.5%	\$25,423,296
611513	Apprenticeship Training	\$5,545,760	31.0%	\$12,359,163	69.0%	\$17,904,923
Total		\$1,942,516,515	47.8%	\$2,120,882,749	52.2%	\$4,063,399,264

Source: Emsi Developer 2018.2dataset

## TABLE 4.7.5. Prince George's County Education Cluster Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMANDMET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMAND MET BY IMPORTS	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
903611	Elementary and Secondary Schools (Local Government)	\$1,813,777,182	78.9%	\$484,105,925	21.1%	\$2,297,883,107
611310	Colleges, Universities, and Professional Schools	\$37,645,992	5.6%	\$630,134,289	94.4%	\$667,780,281
903612	Colleges, Universities, and Professional Schools (Local Government)	\$92,735,183	57.4%	\$68,891,593	42.6%	\$161,626,776
902612	Colleges, Universities, and Professional Schools (State Government)	\$128,770,795	99.6%	\$463,270	0.4%	\$129,234,065
611710	Educational Support Services	\$60,750,914	99.3%	\$443,243	0.7%	\$61,194,157
611430	Professional and Management Development Training	\$24,796,666	75.1%	\$8,219,588	24.9%	\$33,016,254
611513	Apprenticeship Training	\$5,545,760	99.1%	\$52,282	0.9%	\$5,598,042
Total		\$2,164,022,493	64.5%	\$1,192,310,189	35.5%	\$3,356,332,682

cluster, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city.

This is a vital industry cluster to the future growth and development of Prince George's County. It is not redundant to stress the importance of education in the workforce, but even more so, in a county like Prince George's where the labor force participation rate is already high. Educators already receive the necessary funds and support needed to better educate the future workforce of the county. The next step is providing the teachers, and thereby the students, the appropriate information regarding other industry growth and employment opportunities and the needs of Prince George's County in general.

This is an industry cluster that will grow and expand given the growth and expansion of the Prince George's County economy. The workforce that flows out of the education system and into the local business and industries will help drive that growth.

# **Transportation and Logistics**

Transportation and Logistics industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Transportation and Logistics industries generally require many more middle-skill jobs than most other industries. Twenty-five industry sectors make up the Transportation and Logistics cluster in Prince George's County. See Table 4.8.1. below for the full list of industry sectors. Table 4.8.1. provides an overview for each of the individual industry sectors that comprise the Transportation and Logistics cluster in Prince George's County.

Despite relatively stagnant year over year (YOY) growth trends (Figure 4.8.1), the transportation and logistics industry cluster in Prince George's County is constantly coming up short in finding the necessary workers with the skill and qualifications willing to work in the cluster. This is one of the factors holding back this industry clusters growth as in Prince George's County as the cluster trends in both the state and nation have been much higher (Figure 4.8.1).

The transportation and logistics cluster accounted for 12,858 jobs in 2018 and is 2.81 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years as building activity picked up following the recession. However, the industry is expected to experience weaker than average growth (see Table 4.8.1. on the next page) of only 2.8% in total over the next five years.





## TABLE 4.8.1. Transportation and Logistics Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 JOBS	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % CHANGE	2018 LOCATION QUOTIENT	2017 Total Earnings	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
492110	Couriers and Express Delivery Services	3,556	4,107	15.5%	4,175	1.7%	2.88	\$52,763	\$328,446,298	24.2%
493110	General Warehousing and Storage	1,201	1,166	-2.9%	810	-30.6%	0.56	\$74,588	\$118,177,932	8.7%
485113	Bus and Other Motor Vehicle Transit Systems	222	1,146	416.2%	1,526	33.1%	12.49	\$50,125	\$56,485,208	4.2%
484110	General Freight Trucking, Local	775	845	9.0%	931	10.2%	1.15	\$57,016	\$92,248,977	6.8%
482110	Rail transportation	760	662	-12.9%	656	-0.8%	1.30	\$82,540	\$116,200,449	8.6%
482110	Rail transportation	760	662	-12.9%	656	-0.8%	1.30	\$82,540	\$116,200,449	8.6%
532111	Passenger Car Rental	351	479	36.7%	549	14.5%	1.66	\$43,159	\$81,675,911	6.0%
492210	Local Messengers and Local Delivery	305	456	49.4%	507	11.3%	2.41	\$36,568	\$24,725,669	1.8%
541614	Process, Physical Distribution, and Logistics Consulting Services	315	419	32.9%	471	12.6%	1.32	\$59,984	\$30,423,386	2.2%
488119	Other Airport Operations	400	413	3.4%	423	2.2%	1.83	\$108,449	\$61,995,014	4.6%
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	323	367	13.4%	377	2.7%	1.97	\$55,088	\$82,096,070	6.1%
484220	Specialized Freight (except Used Goods) Trucking, Local	254	320	25.9%	320	0.0%	0.61	\$56,707	\$28,835,058	2.1%
484210	Used Household and Office Goods Moving	449	271	-39.8%	188	-30.5%	1.15	\$46,804	\$19,787,866	1.5%
485991	SpecialNeedsTransportation	248	214	-13.9%	208	-2.6%	1.19	\$52,765	\$15,143,761	1.1%
531130	Lessors of Miniwarehouses and Self-Storage Units	154	209	35.9%	240	14.8%	1.03	\$35,530	\$69,565,570	5.1%
484121	General Freight Trucking, Long-Distance, Truckload	272	205	-24.6%	141	-31.1%	0.15	\$64,436	\$35,614,641	2.6%
485210	Interurban and Rural Bus Transportation	162	165	1.4%	196	19.4%	3.71	\$58,731	\$10,226,946	0.8%
493130	Farm Product Warehousing and Storage	69	148	115.5%	192	29.5%	5.55	\$42,010	\$6,958,967	0.5%
488510	Freight Transportation Arrangement	98	145	48.6%	167	14.6%	0.26	\$37,597	\$13,649,033	1.0%
488490	Other Support Activities for Road Transportation	65	113	74.1%	132	17.4%	1.14	\$47,009	\$7,555,733	0.6%
484122	General  Freight  Trucking, Long-Distance, Less  Than  Truckload	60	107	79.4%	110	2.3%	0.17	\$66,640	\$12,211,935	0.9%
488190	Other Support Activities for Air Transportation	54	76	41.6%	77	1.4%	0.29	\$101,193	\$11,815,254	0.9%
493190	Other Warehousing and Storage	33	70	115.7%	76	7.8%	0.65	\$50,197	\$6,882,778	0.5%
484230	${\sf Specialized}{\sf Freight}({\sf except}{\sf Used}{\sf Goods}){\sf Trucking},{\sf Long-Distance}$	49	63	28.3%	69	9.2%	0.19	\$60,862	\$6,064,311	0.4%
493120	Refrigerated Warehousing and Storage	52	31	-40.6%	18	-41.2%	0.23	\$50,670	\$2,245,427	0.2%
	Totals for Cluster	10,986	12,858	17.0%	13,215	2.8%	2.81	\$59,390	\$1,355,232,644	100.0%

Among cluster industries, couriers and express delivery services is the largest employing sector in this cluster and has maintained steady employment, adding jobs between 2013 and 2018, Prince George's County moved away from some transportation and logistics industries and into others. Refrigerated warehousing and storage declined sharply. Overall, the number of Prince George's County jobs in this cluster increased by 17% from 2013 to 2018.

Historically, Prince George's County businesses in these transportation and logistics sectors have varied in comparison to the growth and decline experienced by the industry cluster throughout the state of Maryland and the Nation, which have practically mirrored each other since 2004. In 2004, Prince George's County transportation and logistics declined dramatically and continued to do so until 2013. Figure 4.8.1. shows that the year-over-year (YOY) growth rate for Prince George's County as well as the State of Maryland and the rest of the Nation. As shown, the growth trends experienced by Prince George's County in the last five years are projected to continue, but at a more subdued rate.

## LABOR MARKET GAP ANALYSIS

Table 4.8.2. lists the top 25 occupations in transportation and logistics. These occupations account for 76% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 14% of the people in these occupations in the region. The other 86% are employed by industry sectors outside of the transportation and logistics cluster. The occupations with the most jobs in the transportation and logistics cluster are laborers and freight, stock, and material movers, hand. These occupations comprise almost 18% of the cluster's total jobs. Laborers and freight, stock, and material movers, hand make the second-lowest hourly wage (\$13.19), and as shown in Table 4.8.2. on the next page, have no formal educational requirement. At more than \$53 per hour, transportation, storage, and distribution managers are paid the most.

As shown in Table 4.8.3., the entry-level requirement for 23 of the 25 positions is a high school diploma or equivalent. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) What makes most of these occupations so valuable, however, is the on-the-job training, apprenticeships, or certifications required. These occupations are considered to be middle-skill occupations. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.8.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travelelsewherefor workfor such occupations.

Table 4.8.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Transportation and Logistics laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

## TABLE 4.8.2. Largest Occupations Specific to Transportation and Logistics

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	2,158	2,336	8.2%	2,220	-5.0%	18.2%	6,734	5,358	1,199
53-3033	Light Truck or Delivery Services Drivers	1,617	1,956	20.9%	2,042	4.4%	15.2%	4,742	3,285	1,224
53-3032	Heavy and Tractor-Trailer Truck Drivers	1,281	1,209	-5.6%	1,190	-1.5%	9.4%	2,689	2,675	-106
53-3021	Bus Drivers, Transit and Intercity	287	971	238.2%	1,299	33.9%	7.5%	2,829	1,526	884
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	288	324	12.5%	327	1.1%	2.5%	1,025	797	198
53-1021	First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	268	286	6.8%	261	-8.9%	2.2%	709	487	230
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	208	240	15.2%	271	12.7%	1.9%	939	666	184
41-2021	Counter and Rental Clerks	180	218	20.7%	245	12.4%	1.7%	1,384	1,449	-154
43-4051	Customer Service Representatives	168	197	17.4%	202	2.5%	1.5%	5,575	6,020	-672
53-7051	Industrial Truck and Tractor Operators	183	182	-0.7%	151	-16.8%	1.4%	619	686	-69
43-5021	Couriers and Messengers	119	165	39.3%	190	14.6%	1.3%	289	384	-135
11-1021	General and Operations Managers	128	153	19.6%	157	2.4%	1.2%	6,117	10,678	-4,862
53-3041	Taxi Drivers and Chauffeurs	98	151	54.2%	159	5.6%	1.2%	2,548	2,330	-202
43-5081	Stock Clerks and Order Fillers	148	150	1.4%	123	-18.1%	1.2%	5,922	5,506	17
43-1011	First-Line Supervisors of Office and Administrative Support Workers	109	124	14.2%	122	-1.5%	1.0%	4,763	5,298	-833
43-9061	Office Clerks, General	111	121	9.5%	125	2.8%	0.9%	7,762	9,489	-2,373
43-5071	Shipping, Receiving, and Traffic Clerks	118	120	2.2%	102	-15.0%	0.9%	1,205	1,123	67
53-4031	Railroad Conductors and Yardmasters	130	117	-10.0%	115	-1.6%	0.9%	172	126	44
41-3099	Sales Representatives, Services, All Other	99	117	18.2%	120	3.0%	0.9%	3,115	3,759	-738
43-5032	Dispatchers, Except Police, Fire, and Ambulance	107	117	9.4%	127	9.1%	0.9%	504	537	-65
53-4011	Locomotive Engineers	129	116	-9.9%	115	-1.5%	0.9%	129	98	32
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	92	108	17.4%	109	1.1%	0.8%	8,953	10,789	-2,296
11-3071	Transportation, Storage, and Distribution Managers	95	99	4.1%	95	-3.3%	0.8%	425	450	-35
53-3022	Bus Drivers, School or Special Client	40	96	140.2%	115	20.3%	0.7%	1,444	1,797	-439
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	76	96	25.5%	103	8.1%	0.7%	361	611	-274
Total		8,236	9,768	18.6%	10,087	3.3%	76.0%	70,953	75,924	-9,174

\* Employed in Region column is employment for all industries, not just for Transportation and Logistics

## TABLE 4.8.3. Transportation and Logistics Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
11-3071	Transportation, Storage, and Distribution Managers	\$53.84	High school diploma or equivalent	None	4728	33	31	2
53-4011	Locomotive Engineers	\$39.91	High school diploma or equivalent	Moderate-term on-the-job training	0	12	11	1
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
53-1031	First-Line Supervisors of Transportation and Material-Moving Machine and Vehi- cle Operators	\$31.36	High school diploma or equivalent	None	146	108	99	9
53-4031	Railroad Conductors and Yardmasters	\$30.80	High school diploma or equivalent	Moderate-term on-the-job training	0	18	16	2
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	\$25.84	High school diploma or equivalent	Long-term on-the-job training	0	87	74	13
53-1021	First-Line Supervisors of Helpers, Labor- ers, and Material Movers, Hand	\$24.69	High school diploma or equivalent	None	146	77	73	4
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
53-3022	Bus Drivers, School or Special Client	\$20.58	High school diploma or equivalent	Short-term on-the-job training	0	189	157	32
43-5032	Dispatchers, Except Police, Fire, and Ambulance	\$20.44	High school diploma or equivalent	Moderate-term on-the-job training	0	50	42	7
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$20.36	Postsecondarynondegreeaward	Short-term on-the-job training	0	324	282	42
53-3021	Bus Drivers, Transit and Intercity	\$20.16	High school diploma or equivalent	Moderate-term on-the-job training	0	328	243	84
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-4181	Reservation and Transportation Ticket Agents and Travel Clerks	\$19.15	High school diploma or equivalent	Short-term on-the-job training	0	43	31	12
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
53-7051	Industrial Truck and Tractor Operators	\$18.82	No formal educational credential	Short-term on-the-job training	0	80	76	4
43-5071	Shipping, Receiving, and Traffic Clerks	\$18.53	High school diploma or equivalent	Short-term on-the-job training	0	128	124	5
53-3033	Light Truck or Delivery Services Drivers	\$17.20	High school diploma or equivalent	Short-term on-the-job training	0	505	462	43
43-5021	Couriers and Messengers	\$16.49	High school diploma or equivalent	Short-term on-the-job training	0	30	23	6
41-2021	Counter and Rental Clerks	\$15.32	No formal educational credential	Short-term on-the-job training	0	178	166	12
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.19	No formal educational credential	Short-term on-the-job training	0	943	901	43
43-5081	Stock Clerks and Order Fillers	\$12.46	High school diploma or equivalent	Short-term on-the-job training	0	747	696	51
53-3041	Taxi Drivers and Chauffeurs	\$10.84	No formal educational credential	Short-term on-the-job training	0	260	173	87
Total		\$19.91			9654	8135	7371	764

Source: Emsi Developer 2018.2 dataset

#### SUPPLY CHAIN ANALYSIS

Table 4.8.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the transportation and logistics industry cluster—worth a total of nearly \$1.9 billion in the region. Table 4.8.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 6, we see that the companies in these sectors meet 63% of Prince George's County demand for their products, while Prince George's County imports the other 37% of its needs for these products. This would seem to indicate potential markets for local suppliers. General warehousing and storage refrigeration, for example, supply 67% of local demand, supplying about \$111 million of total local demand of \$165 million, while \$54 million is purchased by Prince George's County residents and businesses from outside the region. Other industry sectors that could tap into the Prince George's County market include the following:

- Used Household and Office Goods Moving
- Specialized Freight (except Used Goods) Trucking, Local
- Special Needs Transportation
- Other Support Activities for Air Transportation
- Other Support Activities for Road Transportation

Table 4.8.5. shows the amount of goods and services sold by Prince George's County transportation and logistics companies both inside and outside the region. These companies sell almost \$2.5 billion of products or services, of which just under \$1.3 billion is sold outside Prince George's County. This revenue boost adds a substantial revenue boost and the sports adds value to industries located in the county.

In summary, the transportation and logistics industry cluster is one of the smaller industry clusters in the Prince George's County economy. However, it is a substantial exporter and there is room for more exported sales out of this cluster, as only 52% of the sales go out of region. This industry cluster is a booming one throughout the nation, but without the talent to fill the workforce gaps it is experiencing it will never be able to achieve its full potential. Transportation and logistics is one of the lowest paying yet most physically demanding clusters in Prince George's County. Those employed in this industry are in high demand and therefore seek employment where the pay and benefits will get them the most for their work. This is not unlike other industries, however the transportation and logistics cluster is more guilty than most for the low pay and hard hours employees must endure, making it a less and less appealing employment opportunity in this thriving economy. 
 TABLE 4.8.4. Transportation and Logistics Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED SALES	2017 % EXPORTED SALES	2017 TOTAL SALES
492110	Couriers and Express Delivery Services	\$144,794,961	24.6%	\$444,833,899	75.4%	\$589,628,860
484110	General Freight Trucking, Local	\$102,908,499	50.6%	\$100,614,494	49.4%	\$203,522,993
482110	Rail transportation	\$100,763,231	50.1%	\$100,465,507	49.9%	\$201,228,738
482110	Rail transportation	\$100,763,231	50.1%	\$100,465,507	49.9%	\$201,228,738
493110	General Warehousing and Storage	\$111,390,679	60.7%	\$72,121,479	39.3%	\$183,512,158
531130	Lessors of Miniwarehouses and Self-Storage Units	\$133,536,049	77.8%	\$37,994,601	22.2%	\$171,530,650
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	\$85,755,164	66.1%	\$43,890,143	33.9%	\$129,645,307
532111	Passenger Car Rental	\$100,885,978	78.2%	\$28,051,328	21.8%	\$128,937,306
488119	Other Airport Operations	\$16,540,708	13.7%	\$104,131,852	86.3%	\$120,672,560
485113	Bus and Other Motor Vehicle Transit Systems	\$11,431,583	12.0%	\$84,132,567	88.0%	\$95,564,150
484121	General Freight Trucking, Long-Distance, Truckload	\$59,075,288	75.2%	\$19,491,322	24.8%	\$78,566,610
484220	Specialized Freight (except Used Goods) Trucking, Local	\$46,611,123	73.3%	\$16,985,894	26.7%	\$63,597,017
541614	Process, Physical Distribution, and Logistics Consulting Services	\$27,341,727	60.0%	\$18,256,159	40.0%	\$45,597,886
492210	Local Messengers and Local Delivery	\$15,675,366	35.3%	\$28,714,799	64.7%	\$44,390,165
484210	Used Household and Office GoodsMoving	\$18,866,361	43.2%	\$24,787,346	56.8%	\$43,653,707
484122	General Freight Trucking, Long-Distance, Less Than Truckload	\$20,092,884	74.6%	\$6,851,344	25.4%	\$26,944,228
488510	Freight Transportation Arrangement	\$14,691,485	55.3%	\$11,877,056	44.7%	\$26,568,541
485991	Special Needs Transportation	\$11,741,727	45.9%	\$13,855,136	54.1%	\$25,596,863
488190	Other Support Activities for Air Transportation	\$18,816,216	81.8%	\$4,185,892	18.2%	\$23,002,108
485210	Interurban and Rural Bus Transportation	\$5,192,556	30.0%	\$12,143,074	70.0%	\$17,335,630
488490	Other Support Activities for Road Transportation	\$8,045,886	54.7%	\$6,659,534	45.3%	\$14,705,420
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	\$9,882,268	73.9%	\$3,497,707	26.1%	\$13,379,975
493130	Farm Product Warehousing and Storage	\$2,865,198	26.5%	\$7,948,173	73.5%	\$10,813,371
493190	Other Warehousing and Storage	\$9,670,554	90.4%	\$1,025,506	9.6%	\$10,696,060
493120	Refrigerated Warehousing and Storage	\$2,336,149	67.0%	\$1,152,130	33.0%	\$3,488,279
Total		\$1,179,674,871	47.7%	\$1,294,132,449	52.3%	\$2,473,807,317

TABLE 4.8.5. Prince George's County Transportation and Logistics Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
484121	General Freight Trucking, Long-Distance, Truckload	\$59,075,288	22.2%	\$206,660,274	77.8%	\$265,735,562
493110	General Warehousing and Storage	\$111,390,680	67.4%	\$53,850,501	32.6%	\$165,241,180
492110	Couriers and Express Delivery Services	\$144,794,961	89.9%	\$16,291,561	10.1%	\$161,086,522
531130	Lessors of Miniwarehouses and Self-Storage Units	\$130,845,810	82.0%	\$28,667,705	18.0%	\$159,513,515
484110	General Freight Trucking, Local	\$102,908,499	73.5%	\$37,165,383	26.5%	\$140,073,882
484122	General Freight Trucking, Long-Distance, Less Than Truckload	\$20,092,885	17.0%	\$98,409,651	83.0%	\$118,502,535
532111	Passenger Car Rental	\$100,885,978	89.3%	\$12,134,405	10.7%	\$113,020,383
482110	Rail transportation	\$96,500,926	97.0%	\$3,012,219	3.0%	\$99,513,145
482110	Rail transportation	\$96,500,926	97.0%	\$3,012,219	3.0%	\$99,513,145
484220	Specialized Freight (except Used Goods) Trucking, Local	\$46,611,123	51.6%	\$43,766,393	48.4%	\$90,377,516
488510	FreightTransportationArrangement	\$14,691,485	16.9%	\$72,372,867	83.1%	\$87,064,352
532120	Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing	\$85,755,164	99.2%	\$680,952	0.8%	\$86,436,116
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	\$9,882,267	17.0%	\$48,372,498	83.0%	\$58,254,765
488190	Other Support Activities for Air Transportation	\$18,816,216	46.3%	\$21,837,791	53.7%	\$40,654,007
541614	Process, Physical Distribution, and Logistics Consulting Services	\$27,341,727	88.7%	\$3,485,551	11.3%	\$30,827,279
484210	Used Household and Office GoodsMoving	\$18,866,361	61.8%	\$11,640,318	38.2%	\$30,506,679
485991	SpecialNeedsTransportation	\$11,741,727	64.8%	\$6,370,213	35.2%	\$18,111,940
492210	Local Messengers and Local Delivery	\$15,675,366	92.8%	\$1,212,797	7.2%	\$16,888,163
488119	Other Airport Operations	\$16,540,708	100.0%	\$655	0.0%	\$16,541,363
493120	Refrigerated Warehousing and Storage	\$2,336,148	17.8%	\$10,757,955	82.2%	\$13,094,103
493190	Other Warehousing and Storage	\$9,670,554	77.5%	\$2,805,422	22.5%	\$12,475,976
485113	Bus and Other Motor Vehicle Transit Systems	\$11,431,583	100.0%	\$621	0.0%	\$11,432,204
488490	Other Support Activities for Road Transportation	\$8,045,885	75.6%	\$2,600,175	24.4%	\$10,646,061
485210	Interurban and Rural Bus Transportation	\$5,192,555	100.0%	\$481	0.0%	\$5,193,037
493130	Farm Product Warehousing and Storage	\$2,865,198	99.9%	\$1,560	0.1%	\$2,866,758
Total		\$1,168,460,020	63.0%	\$685,110,165	37.0%	\$1,853,570,185

# **Government Services**

From the 2017 NAICS Manual, the public administration sector consists of establishments of federal, state, and local government agencies that administer, oversee, and manage public programs and have executive, legislative, or judicial authority over other institutions within a given area. In general, government establishments in the public administration sector oversee governmental programs and activities that are not performed by private establishments. Schools and hospitals are not included in this sector.

Normally, government is not included in cluster analysis, because economic development efforts generally cannot enhance or increase government investment or employment in an area. However, because of the close proximity to the Nation's capital, government activity is a significant component of the local economy. Government industries typically offer competitive wages, bring in outside money to the local economy (federal and state funds), and offer career pathways for workers with a wide variety of education and skills. Five industry sectors make up the government cluster in Prince George's County. See Table 4.9.1. below for the full list of industry sectors. Table 4.9.1. provides an overview for each of the individual industry sectors that comprise the government cluster in Prince George's County.

The government services cluster accounted for 57,431 jobs in 2018 and is 2.92 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced average job growth over the last five years. However, the industry is expected to see an increased growth rate (see Table 4.9.1. above) and is expected to grow 4.1% over the next five years.

Among cluster industries, federal government, civilian, excluding postal service is the largest employing sector in this cluster and has maintained steady employment, adding jobs between 2013 and 2018. In fact, all five industries in this cluster saw increases in employment following the over the last five years. Overall, the number of Prince

TABLE 4.9.1. Government Services Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % CHANGE	2023 Jobs	2018- 2023 % Change	2018 LOCATION QUOTIENT	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
901199	Federal Government, Civilian, Excluding Postal Service	24,213	24,608	1.6%	24,715	0.4%	4.72	\$154,095	\$5,458,244,574	59.3%
903999	Local Government, Excluding Education and Hospitals	19,433	20,504	5.5%	22,465	9.6%	1.58	\$92,384	\$2,055,411,968	22.3%
901200	Federal Government, Military	7,961	7,918	-0.5%	8,195	3.5%	1.74	\$54,808	\$1,339,419,470	14.6%
901149	US Postal Service	2,502	2,608	4.2%	2,407	-7.7%	1.91	\$71,132	\$188,293,172	2.0%
902999	State Government, Excluding Education and Hospitals	1,673	1,794	7.2%	1,987	10.8%	0.35	\$70,338	\$162,222,026	1.8%
	Totals for Cluster	55,783	57,431	3.0%	59,769	4.1%	2.92	\$112,140	\$9,203,591,210	100.0%

Source: Emsi Developer 2018.2dataset



#### FIGURE 4.9.1. Government Services Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

George's County jobs in this cluster increased by a steady 3% from 2013 to 2018.

Historically, Prince George's County businesses in these Government Services sectors have seen more growth than that experienced by the industry cluster throughout Maryland and the US. That being said, Figure 4.9.1. shows that the year-over-year (YOY) growth rate and the trend has been almost identical for all three regions, starting in 2013. With Maryland and Prince George's miring their YOY growth rate since 2007.

## LABOR MARKET GAP ANALYSIS

Table 4.9.2. lists the top 25 occupations in government services. These occupations account for 17% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 13% of the people in these occupations in the region. The other 87% are employed by industry sectors outside of the government services cluster.

The occupations with the most jobs in the government services cluster are military occupations. These occupations comprise only 4% of the cluster's total jobs. Military occupations make the second-lowesthourly wage (\$19.23). Atmore than \$66 per hour, General and Operation Managers are paid the highest.

As shown in Table 4.9.3., four of the top 25 occupations typically require a bachelor's degree or a high school diploma or its equivalent, in fact, the entry-level requirement for 10 of the 25 top occupations

## TABLE 4.9.2. Largest Occupations Specific to Government Services

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
55-9999	Military occupations	2,104	2,307	9.7%	2,199	-4.7%	4.0%	8,195	11,994	-4,118
33-3051	Police and Sheriff's Patrol Officers	1,639	1,980	20.8%	2,055	3.8%	3.4%	3,498	3,890	-750
15-1199	Computer Occupations, All Other	1,184	1,203	1.6%	1,188	-1.3%	2.1%	3,623	6,569	-2,956
13-1199	Business Operations Specialists, All Other	344	1,069	211.3%	1,346	25.9%	1.9%	2,665	10,995	-8,487
53-3021	Bus Drivers, Transit and Intercity	282	325	15.4%	328	0.9%	0.6%	2,829	1,526	884
11-9199	Managers, All Other	259	280	8.1%	256	-8.3%	0.5%	2,924	7,855	-5,113
43-5052	Postal Service Mail Carriers	200	249	24.5%	276	10.8%	0.4%	1,000	1,202	-123
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	180	225	24.8%	249	10.4%	0.4%	719	732	100
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	173	198	14.5%	203	2.1%	0.3%	8,953	10,789	-2,296
29-1141	Registered Nurses	168	174	3.3%	146	-15.8%	0.3%	4,514	8,320	-4,390
43-9061	Office Clerks, General	101	173	70.8%	192	11.5%	0.3%	7,762	9,489	-2,373
19-4099	Life, Physical, and Social Science Techni- cians, All Other	135	154	14.0%	157	2.1%	0.3%	1,619	1,087	465
33-1012	First-Line Supervisors of Police and Detectives	137	153	11.9%	161	5.1%	0.3%	797	864	-125
13-1111	Management Analysts	134	143	6.2%	119	-16.8%	0.2%	2,339	7,767	-5,620
11-1021	General and Operations Managers	109	124	13.6%	122	-1.4%	0.2%	6,117	10,678	-4,862
13-1041	Compliance Officers	114	122	7.9%	125	2.3%	0.2%	839	2,249	-1,452
23-1011	Lawyers	108	119	11.0%	129	7.8%	0.2%	1,371	7,646	-6,274
43-1011	First-Line Supervisors of Office and Administrative Support Workers	104	118	13.3%	121	2.5%	0.2%	4,763	5,298	-833
49-9071	Maintenance and Repair Workers, General	134	116	-13.1%	115	-1.0%	0.2%	3,955	4,443	-809
19-3099	Social Scientists and Related Workers, All Other	133	116	-13.0%	115	-0.8%	0.2%	621	1,657	-1,045
15-2041	Statisticians	109	115	5.6%	99	-13.9%	0.2%	1,554	1,163	198
43-4199	Information and Record Clerks, All Other	96	108	13.2%	109	0.8%	0.2%	694	1,652	-996
13-2099	Financial Specialists, All Other	82	101	22.3%	118	17.3%	0.2%	729	1,512	-808
17-2199	Engineers, All Other	89	98	10.1%	104	6.8%	0.2%	687	1,535	-873
13-1071	Human Resources Specialists	90	98	8.2%	95	-2.8%	0.2%	1,411	3,326	-1,965
Total		8,207	9,868	20.2%	10,127	2.6%	17.2%	74,175	124,238	-54,621

\* Employed in Region column is employment for all industries, not just for Government Services

## TABLE 4.9.3. Occupational Openings, Government Services

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
23-1011	Lawyers	\$63.98	Doctoral or professional degree	None	92	71	59	12
17-2199	Engineers, All Other	\$62.46	Bachelor's degree	None	428	47	41	5
15-1199	Computer Occupations, All Other	\$55.26	Bachelor's degree	None	2619	254	233	21
11-9199	Managers, All Other	\$55.05	Bachelor's degree	None	4552	217	179	39
33-1012	First-Line Supervisors of Police and Detectives	\$52.83	High school diploma or equivalent	Moderate-term on-the-job training	435	57	42	15
19-3099	Social Scientists and Related Workers, All Other	\$51.89	Bachelor's degree	None	219	58	53	5
15-2041	Statisticians	\$49.11	Master's degree	None	289	120	91	29
13-1199	Business Operations Specialists, All Other	\$45.64	Bachelor's degree	None	2	244	226	18
13-2099	Financial Specialists, All Other	\$45.20	Bachelor's degree	Moderate-term on-the-job training	665	62	57	5
13-1111	Management Analysts	\$44.78	Bachelor's degree	None	4462	213	178	36
13-1041	Compliance Officers	\$41.84	Bachelor's degree	Moderate-term on-the-job training	184	68	62	6
13-1071	Human Resources Specialists	\$39.22	Bachelor's degree	None	525	137	129	7
29-1141	Registered Nurses	\$38.35	Bachelor's degree	None	315	261	193	68
33-3051	Police and Sheriff's Patrol Officers	\$32.58	High school diploma or equivalent	Moderate-term on-the-job training	22	265	190	75
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
43-5052	Postal Service Mail Carriers	\$29.33	High school diploma or equivalent	Short-term on-the-job training	0	81	77	4
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	\$28.54	High school diploma or equivalent	Short-term on-the-job training	0	63	61	2
19-4099	Life, Physical, and Social Science Techni- cians, All Other	\$27.63	Associate's degree	None	0	185	169	16
43-4199	Information and Record Clerks, All Other	\$26.38	High school diploma or equivalent	Short-term on-the-job training	0	78	72	6
43-6014	Secretaries and Administrative Assistants, ExceptLegal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
49-9071	Maintenance and Repair Workers, General	\$21.65	High school diploma or equivalent	Moderate-term on-the-job training	0	395	344	51
53-3021	Bus Drivers, Transit and Intercity	\$20.16	High school diploma or equivalent	Moderate-term on-the-job training	0	328	243	84
55-9999	Military occupations	\$19.23	N/A	N/A	0	939	882	57
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
Total		\$35.06			19443	7008	6202	806

is a high school diploma or equivalent. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.6.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.9.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. government services laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of newjobs.

#### SUPPLY CHAIN ANALYSIS

Table 4.9.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the government services industry cluster—worth a total of nearly \$35 billion in the region. Table 4.9.4. is sorted by the dollar value of demandbeingmetin-region by Prince George's County businesses. In Table 4.9.4., we see that the companies in these sectors meet only 11% of Prince George's County demand for their products, while Prince George's County imports the other 89% of its needs for these products. There is very little, to no growth attainable by this industry cluster.

Table 4.9.5. shows the amount of goods and services sold by Prince George's County government services companies both inside and outside the region. These companies sell almost \$63 billion of prod-

TABLE 4.9.4. Government Services Cluster Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION Sales	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
901199	Federal Government, Civilian, Excluding Postal Service	\$0	0.0%	\$51,064,415,671	100.0%	\$51,064,415,671
903999	Local Government, Excluding Education and Hospitals	\$2,853,587,372	42.5%	\$3,861,763,708	57.5%	\$6,715,351,080
901200	Federal Government, Military	\$0	0.0%	\$3,298,415,963	100.0%	\$3,298,415,963
902999	State Government, Excluding Education and Hospitals	\$0	0.0%	\$1,260,229,945	100.0%	\$1,260,229,945
901149	US Postal Service	\$158,408,310	49.2%	\$163,621,495	50.8%	\$322,029,805
Total		\$3,011,995,682	4.8%	\$59,648,446,782	95.2%	\$62,660,442,464

Source: Emsi Developer 2018.2 dataset

ucts or services, of which almost \$60 billion is sold outside Prince George's County. This is an export heavy industry cluster bringing in a large amount of extra revenue to the county.

In summary, the government services industry is the largest industry cluster in the Prince George's County economy. Further, this cluster is highly concentrated and specialized in Prince George's County – meaning that this Prince George's County industry cluster is highly competitive. This industry cluster employs middle skill occupations,

which pay living wages and which are in high demand, and often in short supply, across the country. However, Prince George's County has a surplus of people in these occupations who commute outside of Prince George's County for work. Building up the industry, its supply chain, and offering a high quality of life for those employed in Government Services, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city.

#### TABLE 4.9.5. Prince George's County Government Services Cluster Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMAND MET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
902999	State Government, Excluding Education and Hospitals	\$1,008,860,455	8.7%	\$10,601,347,224	91.3%	\$11,610,207,680
901199	Federal Government, Civilian, Excluding Postal Service	\$0	0.0%	\$10,745,028,668	100.0%	\$10,745,028,668
901200	Federal Government, Military	\$0	0.0%	\$9,741,687,637	100.0%	\$9,741,687,637
903999	Local Government, Excluding Education and Hospitals	\$2,853,587,373	100.0%	\$0	0.0%	\$2,853,587,373
901149	US Postal Service	\$140,251,643	97.0%	\$4,370,231	3.0%	\$144,621,875
Total		\$4,002,699,471	11.4%	\$31,092,433,760	88.6%	\$35,095,133,231

# Information Technology

Information technology industries typically offer competitive wages, contribute handsomely to a region's gross regional product (GRP), and offer career pathways for workers with a wide variety of education and skills. Information Technology industries generally require many more high-skill jobs than most other industries. These high -skill jobs are in high demand nationwide, and are a particular strength of the Prince George's County economy. Ten industry sectors make up the Information Technology cluster in Prince George's County. See Table 4.10.1. below for the full list of industry sectors. Table 4.10.1. provides an overview for each of the individual industry sectors that comprise the Information Technology cluster in Prince George's County.

The information technology sector, while a high paying cluster in high demand across all industries, has seen a decrease in growth

over the last five years and is project to continue that downward trend, albeit at a 5% decline instead of 13%. There is a great deal of automation that takes place in the industry and as this takes place the demand for jobs that were once vital, is going down as the process once done by a group or teams of employs is now a system that can be performed by one employee or just a computer.

The information technology cluster accounted for 10,350 jobs in 2018 and is 1.56 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced negative growth over the last five years as many jobs have been streamlined and automated. This negative growth is expected to continue (see Table 4.10.1. on the next page) at -5.0% in total over the next five years.

#### TABLE 4.10.1. Information Technology Cluster Industry Employment Trends, Prince George's County

				2013-		2018-	2018	2017		SECTOR
NAICS	INDUSTRY SECTOR	JOBS	JOBS	2018 % Change	JOBS	2023 % Change	QUOTIENT	TOTAL EARNINGS	2017 GRP	SHARE OF CLUSTER GRP
541512	Computer Systems Design Services	4,458	4,856	8.9%	5,148	6.0%	1.99	\$113,515	\$699,731,820	43.3%
541511	Custom Computer Programming Services	3,611	2,866	-20.6%	2,374	-17.2%	1.28	\$113,029	\$420,821,204	26.0%
518210	Data Processing, Hosting, and Related Services	1,128	988	-12.5%	998	1.1%	1.33	\$118,921	\$200,795,897	12.4%
561621	Security Systems Services (except Locksmiths)	581	386	-33.6%	332	-13.9%	1.25	\$68,945	\$38,403,330	2.4%
561621	Security Systems Services (except Locksmiths)	581	386	-33.6%	332	-13.9%	1.25	\$68,945	\$38,403,330	2.4%
541519	Other Computer Related Services	301	266	-11.7%	203	-23.8%	0.92	\$105,971	\$52,362,682	3.2%
511210	Software Publishers	811	261	-67.8%	133	-49.0%	0.29	\$115,346	\$101,289,048	6.3%
512110	Motion Picture and Video Production	129	179	39.1%	202	12.9%	0.25	\$62,630	\$38,744,717	2.4%
541513	Computer Facilities Management Services	170	89	-47.4%	59	-33.9%	0.50	\$89,797	\$17,759,615	1.1%
611420	Computer Training	67	74	10.5%	54	-27.0%	1.95	\$75,690	\$7,393,131	0.5%
	Totals for Cluster	11,836	10,350	-12.6%	9,834	-5.0%	1.56	\$108,980	\$1,615,704,775	100.0%



#### FIGURE 4.10.1. Information Technology Employment Trends; YOY Employment Growth

Source: Emsi Developer 2018.2 dataset

Among cluster industries, computer systems design services is the largest employing sector in this cluster and is one of three industries that has maintained steady employment in the cluster. Between 2013 and 2018, software publishers as well computer facilities management services experienced the largest decline. Overall, the number of Prince George's County jobs in this cluster declined by 12.6% from 2013 to 2018.

Historically, Prince George's County businesses in these information technology sectors have followed their own growth pattern. Since 2004, Prince George's County has seen an overall downward trend in Information Technology employment where both the state and the nation have seen significant growth. As shown in Figure 4.10.1., which shows the year-over-year (YOY) growth rate for all three geographies, the projections are for this industry cluster to continue negative employment trends in Prince George's County and positive growth trends in both Maryland and the US.

#### LABOR MARKET GAP ANALYSIS

Table 4.10.2. lists the top 25 occupations in information technology. These occupations account for 75% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 13% of the people in these occupations in the region. The other 87% are employed by industry sectors outside of the information technology sector.

The occupations with the most jobs in the information technology cluster are software developers, systems software. These occupations comprise more than 10% of the cluster's total jobs. Laborers make a healthy hourly wage (\$56.99), but as shown in Table 5 on

## TABLE 4.10.2. Largest Occupations Specific to Information Technology

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
15-1133	Software Developers, Systems Software	1,086	1,012	-6.7%	989	-2.3%	9.8%	1,661	2,208	-536
15-1121	Computer Systems Analysts	883	836	-5.3%	827	-1.1%	8.1%	1,688	2,608	-1,002
15-1132	Software Developers, Applications	814	667	-18.0%	636	-4.7%	6.4%	1,006	2,133	-1,132
15-1199	Computer Occupations, All Other	520	484	-6.8%	462	-4.6%	4.7%	3,623	6,569	-2,956
15-1142	Network and Computer Systems Admin- istrators	491	464	-5.3%	454	-2.2%	4.5%	1,452	2,061	-614
11-3021	Computer and Information Systems Managers	469	444	-5.4%	438	-1.3%	4.3%	1,170	1,912	-783
15-1131	Computer Programmers	511	375	-26.6%	306	-18.4%	3.6%	523	908	-304
41-3099	Sales Representatives, Services, All Other	421	365	-13.3%	340	-6.7%	3.5%	3,115	3,759	-738
15-1151	Computer User Support Specialists	401	359	-10.3%	349	-2.9%	3.5%	1,340	2,287	-1,058
17-2061	Computer Hardware Engineers	338	317	-6.0%	305	-4.1%	3.1%	739	567	183
43-4051	Customer Service Representatives	357	299	-16.1%	281	-6.0%	2.9%	5,575	6,020	-672
15-1152	Computer Network Support Specialists	299	275	-8.0%	264	-3.8%	2.7%	826	1,060	-241
15-1134	Web Developers	263	268	2.1%	279	4.0%	2.6%	593	754	-210
11-1021	General and Operations Managers	296	256	-13.6%	239	-6.5%	2.5%	6,117	10,678	-4,862
13-1111	ManagementAnalysts	178	153	-14.2%	143	-6.6%	1.5%	2,339	7,767	-5,620
15-1143	Computer Network Architects	170	150	-11.2%	142	-5.8%	1.5%	319	810	-488
15-1122	Information Security Analysts	149	146	-2.2%	146	0.4%	1.4%	333	741	-424
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	151	126	-16.0%	115	-9.0%	1.2%	8,953	10,789	-2,296
11-9199	Managers, All Other	114	108	-5.3%	106	-2.4%	1.0%	2,924	7,855	-5,113
43-9061	Office Clerks, General	125	104	-16.8%	96	-8.3%	1.0%	7,762	9,489	-2,373
43-1011	First-Line Supervisors of Office and Administrative Support Workers	116	101	-13.4%	95	-5.4%	1.0%	4,763	5,298	-833
49-2098	Security and Fire Alarm Systems Installers	152	98	-35.3%	85	-13.8%	0.9%	228	343	-96
15-2041	Statisticians	93	97	3.8%	100	3.3%	0.9%	1,554	1,163	198
15-1111	Computer and Information Research Scientists	103	94	-9.1%	87	-6.8%	0.9%	572	661	-92
13-1161	Market Research Analysts and Marketing Specialists	105	83	-20.9%	78	-5.8%	0.8%	823	2,001	-1,287
Total		8,602	7,683	-10.7%	7,362	-4.2%	74.2%	59,999	90,441	-33,349

\* Employed in Region column is employment for all industries, not just for Information Technology

Source: Emsi Developer 2018.2 dataset

## TABLE 4.10.3. Information Technology Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL REPLACEMENTS	ANNUAL NEW JOBS
11-3021	Computer and Information Systems Managers	\$78.71	Bachelor's degree	None	2766	90	82	8
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
15-1111	Computer and Information Research Scientists	\$62.42	Master's degree	None	2624	40	36	4
17-2061	Computer Hardware Engineers	\$58.92	Bachelor's degree	None	71	51	47	4
15-1143	Computer Network Architects	\$57.04	Bachelor's degree	None	2483	24	22	2
15-1133	Software Developers, Systems Software	\$56.99	Bachelor's degree	None	1782	118	109	9
15-1199	Computer Occupations, All Other	\$55.26	Bachelor's degree	None	2619	254	233	21
11-9199	Managers, All Other	\$55.05	Bachelor's degree	None	4552	217	179	39
15-1122	Information Security Analysts	\$52.61	Bachelor's degree	None	2483	24	21	3
15-1132	Software Developers, Applications	\$51.80	Bachelor's degree	None	186	80	70	10
15-2041	Statisticians	\$49.11	Master's degree	None	289	120	91	29
15-1121	Computer Systems Analysts	\$48.74	Bachelor's degree	None	1055	120	103	17
15-1142	Network and Computer Systems Admin- istrators	\$48.08	Bachelor's degree	None	2181	96	89	6
15-1131	Computer Programmers	\$45.39	Bachelor's degree	None	107	47	42	4
13-1111	ManagementAnalysts	\$44.78	Bachelor's degree	None	4462	213	178	36
15-1152	Computer Network Support Specialists	\$38.73	Associate's degree	None	1359	69	61	8
15-1134	Web Developers	\$38.13	Associate's degree	None	2483	45	36	9
13-1161	Market Research Analysts and Marketing Specialists	\$34.65	Bachelor's degree	None	306	83	71	12
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
15-1151	Computer User Support Specialists	\$29.65	Some college, no degree	None	1359	109	91	18
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
49-2098	Security and Fire Alarm Systems Installers	\$21.73	High school diploma or equivalent	Moderate-term on-the-job training	74	35	27	7
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
Total		\$48.02			37875	5830	5280	550

the next page, the educational requirement is a bachelor's degree. At more than \$78 per hour, computer and information systems managers are paid the most.

As shown in Table 4.10.3., sixteen of the top 25 occupations typically require a bachelor's degree or higher. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) These occupations are considered to be high-skill occupations. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.6.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.10.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories –openings for replacement jobs (jobs that are open due to retirement or other attrition) and openings for newly created jobs. Information technology laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

## SUPPLY CHAIN ANALYSIS

Table 4.10.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the information technology industry cluster—worth a total of nearly \$2.5 billion in the region. Table 4.10.4. is sorted by the dollar value of demand being met in-region by Prince George's County businesses. In Table 4.10.4., we see that the companies in these sectors meet 65% of Prince George's County demand for their products, while Prince George's County imports the other 35% of its needs

TABLE 4.10.4. Information Technology Cluster Regional Demand Met by Prince George's County Companies

NAICS	INDUSTRY	2017 IN-REGION Sales	2017 % IN-REGION SALES	2017 EXPORTED Sales	2017 % EXPORTED SALES	2017 TOTAL SALES
541512	Computer Systems Design Services	\$586,462,853	62.5%	\$352,393,101	37.5%	\$938,855,954
541511	Custom Computer Programming Services	\$454,204,586	85.7%	\$75,902,021	14.3%	\$530,106,607
518210	Data Processing, Hosting, and Related Services	\$342,958,787	87.7%	\$48,225,849	12.3%	\$391,184,636
511210	Software Publishers	\$64,833,265	41.9%	\$90,032,526	58.1%	\$154,865,791
541519	Other Computer Related Services	\$71,870,556	86.7%	\$10,992,902	13.3%	\$82,863,458
561621	Security Systems Services (except Locksmiths)	\$37,535,146	63.6%	\$21,498,402	36.4%	\$59,033,548
561621	Security Systems Services (except Locksmiths)	\$37,535,146	63.6%	\$21,498,402	36.4%	\$59,033,548
512110	Motion Picture and Video Production	\$13,156,092	26.9%	\$35,760,672	73.1%	\$48,916,764
541513	Computer Facilities Management Services	\$23,077,575	82.1%	\$5,031,246	17.9%	\$28,108,821
611420	Computer Training	\$10,565,412	82.5%	\$2,239,043	17.5%	\$12,804,455
Total		\$1,642,199,418	71.2%	\$663,574,164	28.8%	\$2,305,773,583

for these products. This would seem to indicate potential markets for local suppliers. Computer facilities management services, for example, supply 52% of local demand, supplying about \$23 million of total local demand of \$44 million, while \$21 million is purchased by Prince George's County residents and businesses from outside the region. Other industry sectors that could tap into the Prince George's County market include the following:

Data Processing, Hosting, and Related Services

Table 4.10.5. shows the amount of goods and services sold by Prince George's County information technology companies both inside and outside the region. These companies sell almost \$2.3 billion of products or services, of which only \$663 million is sold outside Prince George's County. While this is a substantial revenue boost, it is only 29% of sales and an increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the information technology industry cluster is one of the smaller industry clusters located in Prince George's County economy. However, there is some potential to increase exported sales. Added exports would add to Prince George's County revenue. This industry cluster employs middle to high skill occupations, which pay living and high paying wages which are in high demand, and often in short supply, across the country. However, Prince George's County has a surplus of people in these occupations who commute outside of Prince George's County for work. Building up the industry, its supply chain, and offering a high quality of life for those employed in information technology, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the county.

TABLE 4.10.5. Prince George's County Information Technology Cluster Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
541512	Computer Systems Design Services	\$586,462,853	98.7%	\$7,449,398	1.3%	\$593,912,251
511210	Software Publishers	\$64,833,266	12.2%	\$466,842,734	87.8%	\$531,676,000
541511	Custom Computer Programming Services	\$454,204,587	91.9%	\$40,276,030	8.1%	\$494,480,616
518210	Data Processing, Hosting, and Related Services	\$342,958,786	75.0%	\$114,329,224	25.0%	\$457,288,010
512110	Motion Picture and Video Production	\$13,156,093	5.6%	\$220,857,386	94.4%	\$234,013,478
541519	Other Computer Related Services	\$71,870,556	85.6%	\$12,054,754	14.4%	\$83,925,310
541513	Computer Facilities Management Services	\$23,077,575	52.2%	\$21,114,127	47.8%	\$44,191,702
561621	Security Systems Services (except Locksmiths)	\$37,535,146	98.5%	\$566,611	1.5%	\$38,101,757
561621	Security Systems Services (except Locksmiths)	\$37,535,146	98.5%	\$566,611	1.5%	\$38,101,757
611420	Computer Training	\$10,565,411	97.7%	\$246,384	2.3%	\$10,811,795
Total		\$1,642,199,419	65.0%	\$884,303,258	35.0%	\$2,526,502,677

# **Business Services**

Establishments in the business services sector perform essential activities that are often undertaken in-house by establishments in many sectors of the economy. By consolidating the performance of these activities of the enterprise at one specialized establishment, economies of scale are achieved. Establishments primarily engaged in providing a range of day-to-day office administrative services, such as financial planning, billing and recordkeeping, personnel, and physical distribution and logistics, are part of this cluster.

Many of the companies in this cluster perform routine support activities for the day-to-day operations of other organizations. Activities performed include: office administration, hiring and placing of personnel, document preparation and similar clerical services, solicitation, collection, security and surveillance services, cleaning, and waste disposal services. The activities performed by establishments in this sector are typically on a contract or fee basis.

As with professional services, business services industries typically cross many industry sectors and offer career pathways for workers with a wide variety of education and skills. Business services industries generally require many more entry-level and middle-skill jobs than in professional services. Fifteen industry sectors make up the Business Services cluster in Prince George's County. See Table 4.11.1. below for the full list of industry sectors. Table 4.11.1. provides an overview for each of the individual industry sectors that comprise the Business Services cluster in Prince George's County.

#### FIGURE 4.11.1. Business Services Employment Trends; YOY Employment Growth


TABLE 4.11.1. Business Services Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % Change	2018 Location Quotient	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
541611	Administrative Management and General Management Consult- ing Services	2,442	2,874	17.7%	3,377	17.5%	1.67	\$82,664	\$298,941,606	22.5%
561730	Landscaping Services	2,972	3,129	5.3%	3,194	2.1%	1.15	\$41,899	\$181,761,062	13.7%
561720	Janitorial Services	3,513	3,518	0.2%	3,538	0.6%	1.12	\$28,183	\$163,868,682	12.4%
561320	Temporary Help Services	1,678	2,362	40.7%	2,776	17.5%	0.35	\$36,222	\$122,227,703	9.2%
561210	Facilities Support Services	430	787	83.0%	942	19.7%	2.23	\$77,768	\$122,192,060	9.2%
561110	Office Administrative Services	1,575	933	-40.8%	734	-21.4%	0.76	\$82,521	\$108,317,690	8.2%
562111	Solid Waste Collection	862	1,072	24.3%	1,223	14.0%	2.88	\$57,386	\$105,900,811	8.0%
561612	Security Guards and Patrol Services	2,064	2,596	25.8%	2,679	3.2%	1.55	\$30,388	\$96,196,960	7.3%
562910	Remediation Services	425	366	-13.9%	364	-0.5%	1.84	\$58,602	\$39,286,724	3.0%
532420	Office Machinery and Equipment Rental and Leasing	112	109	-2.5%	117	7.5%	5.07	\$71,460	\$36,714,462	2.8%
562119	Other Waste Collection	70	169	141.3%	207	22.8%	5.72	\$68,705	\$18,971,480	1.4%
541430	Graphic Design Services	220	265	20.5%	265	0.1%	0.87	\$39,310	\$16,897,790	1.3%
562212	Solid Waste Landfill	69	57	-18.3%	54	-4.4%	0.63	\$64,311	\$7,554,249	0.6%
562998	All Other Miscellaneous Waste Management Services	47	42	-11.2%	46	9.5%	0.98	\$58,820	\$4,464,852	0.3%
562211	Hazardous Waste Treatment and Disposal	32	30	-7.7%	12	-59.8%	0.37	\$39,514	\$3,054,589	0.2%
	Totals for Cluster	16,513	18,310	10.9%	19,529	6.7%	1.38	\$48,482	\$1,326,350,719	100.0%

The business services cluster accounted for 18,310 jobs in 2018 and is 1.38 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years and is expected to experience weaker, but still strong job growth (see Table 4.11.1. on the previous page) of 6.7% over the next five years.

Among cluster industries, janitorial services is the largest employing sector in this cluster and has maintained steady employment, but has barley seen any growth in the last five years (0.2%). Between 2013 and 2018, Prince George's County moved away from some Business Services industries and into others. Office administrative services for instance, declined sharply, declining at a rate of -40.8% over the last five years. Overall, the number of Prince George's County jobs in this cluster increased by 10.9% from 2013 to 2018.

Historically, Prince George's County businesses in these Business Services sectors have followed their own growth trends in relation to the rest of Maryland and the US. After losing jobs during the recession (2007-2009) the industry cluster displayed very little change, and it was not until this last five-year period that any sort of positive growth trend was adopted. Figure 4.11.1. shows the year-over-year (YOY) growth rate for Prince George's County and the other two regions. Projections show positive growth trends to continue for all regions in the coming years.

### LABOR MARKET GAP ANALYSIS

Table 4.11.2. lists the top 25 occupations in business services. These occupations account for 71% of all cluster employment. The table provides the number of people employed by occupation in the

cluster, and the number of people employed in that occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 17% of the people in these occupations in the region. The other 83% are employed by industry sectors outside of the business services sector.

The largest occupation in the business services cluster is janitors and cleaners, except maids and housekeeping cleaners. These occupations comprise more than 12% of the cluster's total jobs. janitors and cleaners, except maids and housekeeping cleaners earn the lowest hourly wage (\$12.17), and as shown in Table 5 below, have no formal educational requirement. At more than \$66 per hour, General and Operations Managers are paid the most.

As shown in Table 4.11.3., the typical entry-level requirement for most positions is a high school diploma or equivalent or have no formal educational requirement. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) What makes most of these occupations so valuable, however, is the on-the-job training or apprenticeships required. Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.6.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.11.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other

### TABLE 4.11.2. Largest Occupations Specific to Business Services

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THE REGION (2018)	RESIDENT WORKERS (2018)	NET Commuters (2018)
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	2,132	2,210	3.6%	2,257	2.1%	12.1%	6,347	11,244	-5,023
33-9032	Security Guards	1,695	2,157	27.3%	2,242	3.9%	11.8%	3,284	7,672	-4,431
37-3011	Landscaping and GroundskeepingWork- ers	2,031	2,110	3.9%	2,160	2.3%	11.5%	3,141	3,394	-289
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	538	717	33.2%	818	14.1%	3.9%	6,601	5,358	1,199
37-2012	Maids and Housekeeping Cleaners	584	593	1.6%	610	2.9%	3.2%	3,036	4,190	-1,253
13-1111	Management Analysts	531	566	6.5%	640	13.1%	3.1%	2,191	7,767	-5,620
53-7081	Refuse and Recyclable Material Collectors	349	455	30.5%	514	13.0%	2.5%	650	608	19
11-1021	General and Operations Managers	404	413	2.1%	432	4.7%	2.3%	5,879	10,678	-4,862
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	384	397	3.2%	410	3.4%	2.2%	8,598	10,789	-2,296
41-3099	Sales Representatives, Services, All Other	321	345	7.4%	366	6.2%	1.9%	3,040	3,759	-738
43-4051	Customer Service Representatives	348	340	-2.4%	358	5.2%	1.9%	5,391	6,020	-672
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	316	340	7.5%	344	1.1%	1.9%	482	483	-4
43-9061	Office Clerks, General	330	336	1.6%	355	5.8%	1.8%	7,253	9,489	-2,373
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	297	301	1.4%	303	0.8%	1.6%	776	1,137	-375
53-3032	Heavy and Tractor-Trailer Truck Drivers	215	262	22.0%	303	15.8%	1.4%	2,592	2,675	-106
51-2099	Assemblers and Fabricators, All Other	116	181	56.8%	206	13.9%	1.0%	674	395	263
43-1011	First-Line Supervisors of Office and Administrative Support Workers	188	173	-7.9%	174	0.5%	0.9%	4,529	5,298	-833
37-3013	Tree Trimmers and Pruners	162	172	5.8%	175	1.9%	0.9%	187	228	-42
11-9199	Managers, All Other	139	155	11.7%	169	9.2%	0.8%	2,784	7,855	-5,113
49-9071	Maintenance and Repair Workers, General	125	152	21.2%	166	9.3%	0.8%	3,701	4,443	-809
13-1071	Human Resources Specialists	131	146	11.4%	160	9.3%	0.8%	1,373	3,326	-1,965
43-3031	Bookkeeping, Accounting, and Auditing Clerks	157	138	-11.8%	136	-1.9%	0.8%	3,108	3,986	-888
13-1161	Market Research Analysts and Marketing Specialists	106	120	12.6%	145	21.1%	0.7%	735	2,001	-1,287
19-4099	Life, Physical, and Social Science Techni- cians, All Other	74	110	48.9%	123	11.0%	0.6%	1,573	1,087	465
27-1024	Graphic Designers	77	103	33.6%	114	10.5%	0.6%	464	794	-339
Total		11,752	12,991	10.5%	13,679	5.3%	71.0%	78,389	114,676	-37,372

\* Employed in Region column is employment for all industries, not just for Business Services

## TABLE 4.11.3. Business Services Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL Replacements	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
11-9199	Managers, All Other	\$55.05	Bachelor's degree	None	4552	217	179	39
13-1111	Management Analysts	\$44.78	Bachelor's degree	None	4462	213	178	36
13-1071	Human Resources Specialists	\$39.22	Bachelor's degree	None	525	137	129	7
13-1161	Market Research Analysts and Marketing Specialists	\$34.65	Bachelor's degree	None	306	83	71	12
41-3099	Sales Representatives, Services, All Other	\$34.44	High school diploma or equivalent	Moderate-term on-the-job training	0	389	367	22
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$32.00	High school diploma or equivalent	None	0	470	432	38
19-4099	Life, Physical, and Social Science Techni- cians, All Other	\$27.63	Associate's degree	None	0	185	169	16
37-1012	First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	\$25.86	High school diploma or equivalent	None	0	55	44	11
37-3013	Tree Trimmers and Pruners	\$24.36	High school diploma or equivalent	Short-term on-the-job training	0	26	21	5
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$23.79	Some college, no degree	Moderate-term on-the-job training	56	368	356	12
27-1024	Graphic Designers	\$23.17	Bachelor's degree	None	38	51	44	7
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$22.19	High school diploma or equivalent	Short-term on-the-job training	0	975	893	82
49-9071	Maintenance and Repair Workers, General	\$21.65	High school diploma or equivalent	Moderate-term on-the-job training	0	395	344	51
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$20.36	Postsecondary nondegree award	Short-term on-the-job training	0	324	282	42
43-4051	Customer Service Representatives	\$19.59	High school diploma or equivalent	Short-term on-the-job training	0	740	701	38
43-9061	Office Clerks, General	\$18.99	High school diploma or equivalent	Short-term on-the-job training	0	908	827	81
37-1011	First-Line Supervisors of Housekeeping and Janitorial Workers	\$18.75	High school diploma or equivalent	None	4098	96	81	15
33-9032	Security Guards	\$17.03	High school diploma or equivalent	Short-term on-the-job training	0	548	434	115
53-7081	Refuse and Recyclable Material Collec- tors	\$16.46	No formal educational credential	Short-term on-the-job training	0	88	69	19
51-2099	Assemblers and Fabricators, All Other	\$15.75	High school diploma or equivalent	Moderate-term on-the-job training	0	88	75	14
37-3011	Landscaping and Groundskeeping Workers	\$13.28	No formal educational credential	Short-term on-the-job training	0	426	355	71
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.19	No formal educational credential	Short-term on-the-job training	0	943	901	43
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$12.17	No formal educational credential	Short-term on-the-job training	0	885	781	105
37-2012	Maids and Housekeeping Cleaners	\$11.54	No formal educational credential	Short-term on-the-job training	0	428	348	81
Total		\$20.53			18671	9551	8547	1004

Source: Emsi Developer 2018.2 dataset

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attrition) and openings for newly created jobs. Business Services laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

## SUPPLY CHAIN ANALYSIS

Table 4.11.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the business services industry cluster—worth a total of nearly \$2.2 billion. Table 4.11.4. is sorted by the dollar value of demand being met in-re-

gion by Prince George's County businesses. In Table 4.11.4., we see that the companies in these sectors meet more than half of Prince George's County demand for their products, while Prince George's County imports the other half of its needs for these products. This would seem to indicate potential markets for local suppliers. Security Guards and Patrol Services, for example, supply 60% of local demand, supplying about \$89 million of total local demand of \$148 million, while \$59 million is purchased by Prince George's County residents and businesses from outside the region. Other industry sectors that could tap into the Prince George's County market include the following:

Graphic Design Services

INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED SALES	2017 % EXPORTED SALES	2017 TOTAL SALES
Administrative Management and General Management Consult- ing Services	\$231,196,962	51.6%	\$216,838,766	48.4%	\$448,035,728
Landscaping Services	\$171,087,767	56.5%	\$131,479,107	43.5%	\$302,566,874
Janitorial Services	\$177,883,363	65.2%	\$94,912,879	34.8%	\$272,796,242
Facilities Support Services	\$97,289,251	38.9%	\$152,548,315	61.1%	\$249,837,566
Solid Waste Collection	\$73,334,715	35.2%	\$134,757,860	64.8%	\$208,092,575
Temporary Help Services	\$136,746,002	82.1%	\$29,817,326	17.9%	\$166,563,328
Security Guards and Patrol Services	\$89,163,568	60.3%	\$58,729,449	39.7%	\$147,893,017
Office Administrative Services	\$139,858,610	95.2%	\$7,111,990	4.8%	\$146,970,600
Remediation Services	\$45,934,597	59.5%	\$31,260,514	40.5%	\$77,195,111
Office Machinery and Equipment Rental and Leasing	\$12,607,239	24.7%	\$38,418,473	75.3%	\$51,025,712
Other Waste Collection	\$5,134,044	13.8%	\$32,148,530	86.2%	\$37,282,574
Graphic Design Services	\$20,976,400	88.3%	\$2,768,456	11.7%	\$23,744,856
Solid Waste Landfill	\$12,385,458	83.4%	\$2,458,838	16.6%	\$14,844,296
All Other Miscellaneous Waste Management Services	\$7,848,674	89.5%	\$925,356	10.5%	\$8,774,030
HazardousWasteTreatmentandDisposal	\$4,564,890	76.1%	\$1,436,845	23.9%	\$6,001,735
	\$1,226,011,540	56.7%	\$935,612,702	43.3%	\$2,161,624,244
	INDUSTRY         Administrative Management and General Management Consulting Services         Landscaping Services         Janitorial Services         Facilities Support Services         Solid Waste Collection         Temporary Help Services         Security Guards and Patrol Services         Office Administrative Services         Office Machinery and Equipment Rental and Leasing         Other Waste Collection         Graphic Design Services         Solid Waste Landfill         All Other Miscellaneous Waste Management Services	INDUSTRY2017 IN-REGION SALESAdministrative Management and General Management Consulting Services\$231,196,962Landscaping Services\$171,087,767Janitorial Services\$177,883,363Facilities Support Services\$97,289,251Solid Waste Collection\$73,334,715Temporary Help Services\$136,746,002Security Guards and Patrol Services\$139,858,610Remediation Services\$45,934,597Office Administrative Services\$45,934,597Office Machinery and Equipment Rental and Leasing\$12,607,239Other Waste Collection\$5,134,044Graphic Design Services\$20,976,400Solid Waste Landfill\$12,385,458All Other Miscellaneous Waste Management Services\$7,848,674Hazardous Waste Treatment and Disposal\$4,564,890\$1,226,011,540\$12,280,11,540	INDUSTRY         2017 IN-REGION SALLES         2017 % IN-REGION SALLES           Administrative Management and General Management Consult- ing Services         \$231,196,962         51.6%           Landscaping Services         \$171,087,767         56.5%           Janitorial Services         \$177,883,363         65.2%           Facilities Support Services         \$97,289,251         38.9%           Solid Waste Collection         \$73,334,715         35.2%           Temporary Help Services         \$136,746,002         82.1%           Security Guards and Patrol Services         \$139,858,610         95.2%           Office Administrative Services         \$139,858,610         95.2%           Office Machinery and Equipment Rental and Leasing         \$12,607,239         24.7%           Other Waste Collection         \$5,134,044         13.8%           Graphic Design Services         \$20,976,400         88.3%           Solid Waste Landfill         \$12,385,458         83.4%           All Other Miscellaneous Waste Management Services         \$7,848,674         89.5%           Hazardous Waste Treatment and Disposal         \$4,564,890         76.1%	INDUSTRY         2017 IN-REGION SALE         2017 % IN-REGION SALE         2017 EXPORTED SALE           Administrative Management and General Management Consult- ing Services         \$231,196,962         51.6%         \$216,838,766           Landscaping Services         \$171,087,767         56.5%         \$131,479,107           Janitorial Services         \$177,883,363         65.2%         \$94,912,879           Facilities Support Services         \$97,289,251         38.9%         \$152,548,315           Solid Waste Collection         \$77,334,715         35.2%         \$134,757,860           Temporary Help Services         \$136,746,002         82.1%         \$29,817,326           Security Guards and Patrol Services         \$139,858,610         95.2%         \$7,111,990           Remediation Services         \$139,858,610         95.2%         \$31,260,514           Office Machinery and Equipment Rental and Leasing         \$12,607,239         24.7%         \$38,418,473           Other Waste Collection         \$5,134,044         138%         \$2,2788,456           Solid Waste Landfill         \$12,385,458         83.4%         \$2,4788,338           All Other Miscellaneous Waste Management Services         \$7,848,674         89.5%         \$925,356           Hazardous Waste Treatmentand Disposal         \$4,564,890	INDUSTRY         2017 IN-REGION SALES         2017 NI-REGION SALES         2017 EXPORTED SALES         2017 EXPORTED SALES           Administrative Management and General Management Consult- ing Services         \$231,196,962         51.6%         \$216,838,766         48.4%           Landscaping Services         \$171,087,767         56.5%         \$131,479,107         43.5%           Janitorial Services         \$177,883,363         65.2%         \$94,912,879         34.8%           Solid Waste Collection         \$73,33,4715         35.2%         \$134,757,860         64.8%           Temporary Help Services         \$136,746,002         82.1%         \$29,817,326         17.9%           Security Guards and Patrol Services         \$139,858,610         95.2%         \$7,111,990         4.8%           Office Administrative Services         \$139,858,610         95.2%         \$7,111,990         4.8%           Office Machinery and Equipment Rental and Leasing         \$12,607,239         24.7%         \$38,418,473         75.3%           Office Machinery and Equipment Rental and Leasing         \$12,860,72.49         38.3%         \$2,768,456         11.7%           Solid Waste Collection         \$5,134,044         13.8%         \$32,148,503         86.2%           Office Machinery and Equipment Rental and Leasing         \$2,260,

TABLE 4.11.4. Business Services Regional Demand Met by Prince George's County Companies

- · Hazardous Waste Treatment and Disposal
- Solid Waste Landfill

Table 4.11.5. shows the amount of goods and services sold by Prince George's County business services companies both inside and outside the region. These companies sell almost \$4.3 billion of products or services, of which only \$337 million is sold outside Prince George's County. While this is a substantial revenue boost, it is only 22% of sales and an increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the Business Services industry is one of the smaller

industry cluster in the Prince George's County economy. However, this cluster has a large amount of potential for growth and increasing production and therefore exports, which would increase revenue for the entire county. This industry cluster employs middle skill occupations, which pay living wages and are in high demand, but often in short supply, across the country. However, Prince George's County has a surplus of residents in this cluster's occupations who commute outside of Prince George's County for work. Building up the industry, its supply chain, and offering a high quality of life for those employed in Business Services, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city.

NAICS	INDUSTRY	2017 DEMANDMET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMANDMET By imports	2017 % DEMAND MET By Imports	2017 TOTAL DEMAND
561320	Temporary Help Services	\$136,746,002	35.7%	\$246,101,706	64.3%	\$382,847,708
541611	Administrative Management and General Management Consult- ing Services	\$231,196,962	97.2%	\$6,674,307	2.8%	\$237,871,269
561720	Janitorial Services	\$177,883,363	97.1%	\$5,222,235	2.9%	\$183,105,598
561730	Landscaping Services	\$171,087,767	98.2%	\$3,059,277	1.8%	\$174,147,045
561110	Office Administrative Services	\$139,858,610	82.9%	\$28,778,325	17.1%	\$168,636,935
561210	Facilities Support Services	\$97,289,251	99.0%	\$1,008,224	1.0%	\$98,297,475
561612	Security Guards and Patrol Services	\$89,163,568	98.6%	\$1,281,982	1.4%	\$90,445,550
562111	Solid Waste Collection	\$73,334,716	99.9%	\$91,595	0.1%	\$73,426,310
562910	Remediation Services	\$45,934,597	99.8%	\$107,560	0.2%	\$46,042,157
541430	Graphic Design Services	\$20,976,400	60.9%	\$13,445,652	39.1%	\$34,422,052
562212	Solid Waste Landfill	\$12,385,458	49.6%	\$12,584,137	50.4%	\$24,969,595
562211	HazardousWasteTreatmentandDisposal	\$4,564,890	19.8%	\$18,540,524	80.2%	\$23,105,414
532420	Office Machinery and Equipment Rental and Leasing	\$12,607,239	99.9%	\$7,570	0.1%	\$12,614,809
562998	All Other Miscellaneous Waste Management Services	\$7,848,673	90.2%	\$851,710	9.8%	\$8,700,383
562119	Other Waste Collection	\$5,134,044	100.0%	\$162	0.0%	\$5,134,207
Total		\$1,226,011,541	78.4%	\$337,754,967	21.6%	\$1,563,766,508

### TABLE 4.11.5. Prince George's County Business Services Companies Sales in Region and Exported Out of Region

# Recreation, Tourism, and Hospitality

Recreation, tourism, and hospitality industries typically do not offer competitive wages and career pathways for workers are harder to discern, but the cluster contributes handsomely to a region's gross regional product (GRP). Recreation, Tourism, and Hospitality industries generally require a wide range of skills, most of which are in high demand nationwide. Thirty-eight industry sectors make up the recreation, tourism, and hospitality cluster in Prince George's County. See Table 4.12.1. below for the full list of industry sectors. Table 4.12.1. provides an overview for each of the individual industry sectors that comprise the recreation, tourism, and hospitality cluster in Prince George's County.

the Potomac River, is a retail and business hub for Prince George's County. The retail jobs added by this region added exponentially to the counties earnings and potential for growth. This is a relatively new development (established in 2008) and as the strength of the economy and the area in general continue their upward trend, National Harbor will continue to see interest and an increase in attraction.

The recreation, tourism, and hospitality cluster accounted for 42,054 jobs in 2018 and is 1.70 times more concentrated in Prince George's County than would be expected based on national employment averages (see Location Quotient within the Introduction). As a whole, the cluster experienced strong job growth over the last five years is

National Harbor, a retail hub located on the Prince George's side of



FIGURE 4.12.1. Recreation, Tourism, and Hospitality Employment Trends; YOY Employment Growth

 TABLE 4.12.1. Recreation, Tourism, and Hospitality Cluster Industry Employment Trends, Prince George's County

NAICS	INDUSTRY SECTOR	2013 Jobs	2018 Jobs	2013- 2018 % Change	2023 Jobs	2018- 2023 % Change	2018 Location Quotient	2017 TOTAL EARNINGS	2017 GRP	INDUSTRY SECTOR SHARE OF CLUSTER GRP
722513	Limited-Service Restaurants	10,835	12,913	19.2%	14,377	11.3%	1.27	\$20,437	\$515,727,488	24.7%
722511	Full-Service Restaurants	8,569	8,761	2.2%	9,053	3.3%	0.70	\$23,761	\$270,981,965	13.0%
721110	Hotels (except Casino Hotels) and Motels	3,764	4,287	13.9%	4,895	14.2%	1.15	\$43,178	\$385,765,154	18.5%
721120	Casino Hotels	0	2,718	-	3,658	34.6%	4.38	\$55,218	\$285,295,039	13.7%
561920	Convention and Trade Show Organizers	1,172	1,246	6.3%	1,386	11.2%	9.41	\$59,349	\$83,259,117	4.0%
485320	Limousine Service	464	1,177	153.8%	1,422	20.8%	3.86	\$20,456	\$44,419,930	2.1%
713940	Fitness and Recreational Sports Centers	1,105	1,164	5.4%	1,229	5.6%	0.76	\$17,151	\$26,782,280	1.3%
722515	Snack and Nonalcoholic Beverage Bars	808	1,071	32.6%	1,243	16.0%	0.66	\$24,640	\$28,418,450	1.4%
722310	Food Service Contractors	847	1,037	22.4%	1,082	4.4%	0.84	\$27,779	\$41,375,799	2.0%
722320	Caterers	732	970	32.6%	1,082	11.5%	1.90	\$36,987	\$58,295,957	2.8%
713110	Amusement and Theme Parks	808	916	13.3%	1,014	10.7%	2.12	\$20,334	\$46,935,814	2.3%
711211	Sports Teams and Clubs	436	630	44.4%	757	20.3%	2.72	\$26,455	\$21,060,248	1.0%
711211	Sports Teams and Clubs	436	630	44.4%	757	20.3%	2.72	\$26,455	\$21,060,248	1.0%
711510	Independent Artists, Writers, and Performers	606	570	-5.9%	583	2.3%	0.83	\$22,764	\$40,547,670	1.9%
485310	Taxi Service	324	521	60.8%	574	10.2%	2.56	\$21,393	\$23,382,175	1.1%
611620	Sports and Recreation Instruction	420	411	-2.2%	455	10.7%	0.92	\$19,504	\$8,708,246	0.4%
485999	All Other Transit and Ground Passenger Transportation	606	362	-40.3%	327	-9.6%	4.12	\$54,101	\$30,655,470	1.5%
722410	Drinking Places (Alcoholic Beverages)	350	282	-19.5%	254	-10.1%	0.31	\$23,831	\$11,426,320	0.5%
453220	Gift, Novelty, and Souvenir Stores	330	270	-18.1%	252	-6.5%	0.73	\$26,762	\$16,459,494	0.8%
711212	Racetracks	409	270	-34.0%	143	-47.0%	3.17	\$21,752	\$8,757,759	0.4%
561599	All Other Travel Arrangement and Reservation Services	273	268	-2.0%	268	0.1%	1.26	\$59,245	\$23,688,542	1.1%
713910	Golf Courses and Country Clubs	252	233	-7.4%	218	-6.7%	0.27	\$27,687	\$8,830,231	0.4%
713990	All Other Amusement and Recreation Industries	244	230	-5.9%	229	-0.3%	0.44	\$29,355	\$9,422,337	0.5%
561510	TravelAgencies	206	188	-8.6%	180	-4.3%	0.74	\$35,237	\$14,497,973	0.7%
711219	Other Spectator Sports	299	171	-42.7%	131	-23.8%	1.37	\$24,810	\$10,093,386	0.5%
722514	Cafeterias, Grill Buffets, and Buffets	268	163	-39.3%	138	-15.5%	0.61	\$21,888	\$5,501,457	0.3%
713950	Bowling Centers	150	138	-8.3%	127	-7.6%	0.87	\$19,759	\$3,579,279	0.2%
711130	Musical Groups and Artists	63	68	7.3%	78	15.9%	0.56	\$20,793	\$6,252,448	0.3%
485510	Charter Bus Industry	138	58	-58.4%	29	-49.0%	0.84	\$38,446	\$3,880,677	0.2%
487110	Scenic and Sightseeing Transportation, Land	184	52	-71.9%	40	-22.8%	1.46	\$58,061	\$4,843,746	0.2%
712120	Historical Sites	34	44	29.2%	52	17.4%	1.22	\$43,372	\$1,995,416	0.1%
711320	Promoters of Performing Arts, Sports, & Similar Events w/out Facilities	39	44	11.5%	46	5.1%	0.40	\$24,750	\$7,128,506	0.3%
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	72	39	-45.2%	31	-21.0%	0.43	\$29,817	\$5,791,913	0.3%
712110	Museums	73	36	-50.2%	38	3.9%	0.16	\$41,130	\$1,642,212	0.1%
711110	Theater Companies and Dinner Theaters	39	33	-16.4%	34	1.8%	0.19	\$27,040	\$2,213,647	0.1%
711310	Promoters of Performing Arts, Sports, & Similar Events with Facilities	46	31	-32.4%	29	-7.0%	0.12	\$20,480	\$2,102,833	0.1%
713930	Marinas	16	30	91.5%	35	15.8%	0.30	\$30,189	\$1,661,237	0.1%
711190	Other Performing ArtsCompanies	24	23	-4.4%	24	4.7%	1.08	\$20,165	\$1,653,094	0.1%
	Totals for Cluster	35,443	42.054	18.7%	46.269	10.0%	1.70	\$28,419	\$2,084,093,558	100.0%

Source: Emsi Developer 2018.2dataset

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expected to maintain this above average growth as it is projected (see Table 4.12.1. on the next page) to grow by 10.0% over the next five years.

Among cluster industries, limited-service restaurants is the largest employing industry in this cluster and has maintained steady employment between 2013 and 2018. During this same period, Prince George's County moved away from some recreation, tourism, and hospitality cluster industries and into others. Chartered buses, for instance, declined sharply. Overall, the number of Prince George's County jobs in this cluster increased by 18.7% from 2013 to 2018.

Historically, Prince George's County businesses in these recreation, tourism, and hospitality sectors have paralleled the growth and decline experienced by the industry cluster throughout the state of Maryland and the US. but at an increased rate. Since 2007, Prince George's County Recreation, Tourism, and Hospitality activity has been much stronger than that of the Maryland and the US. Figure 4.12.1. shows the year-over-year (YOY) growth rate for Prince George's County and the other two geographies, and the growth trends are projected to continue to grow, but at a more stable rate than the booming growth that was experienced in Prince George's County in the last five years.

### LABOR MARKET GAP ANALYSIS

Table 4.12.2. lists the top 25 occupations in recreation, tourism, and hospitality. These occupations account for 76% of all cluster employment. The table provides the number of people employed by occupation in the cluster, and the number of people employed in that

occupation in all industries in the region. This indicates the level of competition employers may face from industries outside the cluster when hiring for key occupations. Overall, for these 25 occupations, the cluster employs 47% of the people in these occupations in the region. The other 53% are employed by industry sectors outside of the recreation, tourism, and hospitality sector.

The occupations with the most jobs in the recreation, tourism, and hospitality cluster are combined food preparation and serving workers, including fast food. These occupations comprise more than 17% of the cluster's total jobs. Laborers make the fourth – lowest hourly wage (\$10.19), and as shown in Table 5 on the below, have no formal educational requirement. At more than \$66 per hour, General and Operational Managers are paid the most.

As shown in Table 4.12.3., all but one of the top 25 occupations require nothing higher than a high school diploma or equivalent, most occupations having no formal educational requirement whatsoever. (Note that these educational requirements reflect national averages and may differ from specific requirements of Prince George's County employers.) Prince George's County has a surplus of these people, as residents in these occupations outpace the number of jobs in the county, illustrated in table 4.6.2 above. Negative commuting numbers in red in the net commuters column indicates that people live in Prince George's County and travel elsewhere for work for such occupations.

Table 4.12.3. shows the average annual openings (averaged over the past five years) for specific occupations within Prince George's County. Openings are further divided into two categories – openings for replacement jobs (jobs that are open due to retirement or other

### TABLE 4.12.2. Largest Occupations Specific to Recreation, Tourism, and Hospitality

SOC	OCCUPATION	EMPLOYED IN INDUSTRY GROUP 2013	EMPLOYED IN INDUSTRY GROUP 2018	% CHANGE (2013-2018)	EMPLOYED IN INDUSTRY GROUP 2023	% CHANGE (2018-2023)	% OF TOTAL JOBS IN INDUSTRY GROUP (2018)	ALL JOBS FOR OCCUPATION IN THEREGION (2018)	RESIDENT Workers (2018)	NET Commuters (2018)
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	5,833	7,009	20.2%	7,962	13.6%	16.7%	9,027	9,087	-1,424
35-3031	Waiters and Waitresses	3,742	4,042	8.0%	4,255	5.3%	9.6%	4,456	6,816	-2,666
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	1,761	2,098	19.1%	2,332	11.1%	5.0%	2,696	3,094	-731
35-2014	Cooks, Restaurant	1,703	1,973	15.9%	2,179	10.4%	4.7%	2,276	3,695	-1,696
53-3041	Taxi Drivers and Chauffeurs	931	1,741	87.0%	2,028	16.5%	4.1%	2,548	2,330	-202
41-2011	Cashiers	1,394	1,604	15.0%	1,707	6.4%	3.8%	11,034	11,233	-828
37-2012	Maids and Housekeeping Cleaners	983	1,342	36.5%	1,587	18.3%	3.2%	3,390	4,190	-1,253
35-2011	Cooks, Fast Food	1,209	1,286	6.4%	1,299	1.0%	3.1%	1,329	1,494	-199
35-2021	Food Preparation Workers	946	1,121	18.5%	1,236	10.2%	2.7%	2,119	2,724	-862
35-3011	Bartenders	962	1,065	10.6%	1,136	6.7%	2.5%	1,251	1,981	-823
35-9021	Dishwashers	980	1,039	6.0%	1,057	1.7%	2.5%	1,185	2,085	-943
35-3022	Counter Attendants, Cafeteria, Food Con- cession, and Coffee Shop	864	1,034	19.6%	1,138	10.1%	2.5%	1,502	1,621	-298
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	819	862	5.3%	896	4.0%	2.1%	928	1,421	-543
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	747	860	15.2%	928	7.9%	2.0%	1,108	2,167	-1,172
43-4081	Hotel, Motel, and Resort Desk Clerks	471	585	24.3%	686	17.2%	1.4%	795	773	-141
53-3031	Driver/Sales Workers	471	561	18.9%	621	10.8%	1.3%	1,201	984	97
11-1021	General and Operations Managers	463	494	6.7%	525	6.1%	1.2%	6,117	10,678	-4,862
39-3011	Gaming Dealers	28	476	1579.1%	625	31.3%	1.1%	736	318	210
39-3091	Amusement and Recreation Attendants	410	453	10.6%	489	7.9%	1.1%	695	820	-202
11-9051	Food Service Managers	380	420	10.7%	444	5.7%	1.0%	523	840	-359
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	215	382	78.2%	458	19.8%	0.9%	6,825	11,244	-5,023
49-9071	Maintenance and Repair Workers, General	297	370	24.4%	421	13.7%	0.9%	3,955	4,443	-809
35-3041	Food Servers, Nonrestaurant	299	356	19.0%	383	7.6%	0.8%	782	1,155	-447
39-9031	Fitness Trainers and Aerobics Instructors	301	335	11.2%	361	7.9%	0.8%	500	977	-527
35-2015	Cooks, Short Order	281	307	9.1%	316	2.9%	0.7%	379	463	-105
Total		26,491	31,814	20.1%	35,067	10.2%	75.6%	67,355	86,634	-25,808

\* Employed in Region column is employment for all industries, not just for Recreation, Tourism, and Hospitality

## TABLE 4.12.3. Recreation, Tourism, and Hospitality Occupational Openings

SOC	OCCUPATION	MEDIAN HOURLY EARNINGS	TYPICAL ENTRYLEVEL Education	TYPICAL ON-THE-JOB Training	ANNUAL Completions	ANNUAL OPENINGS	ANNUAL REPLACEMENTS	ANNUAL NEW JOBS
11-1021	General and Operations Managers	\$66.26	Bachelor's degree	None	4634	513	469	43
49-9071	Maintenance and Repair Workers, General	\$21.65	High school diploma or equivalent	Moderate-term on-the-job training	0	395	344	51
35-1012	First-Line Supervisors of Food Prepara- tion and Serving Workers	\$19.37	High school diploma or equivalent	None	0	360	306	54
11-9051	FoodServiceManagers	\$18.94	High school diploma or equivalent	None	14	59	49	10
39-9031	Fitness Trainers and Aerobics Instructors	\$17.91	High school diploma or equivalent	Short-term on-the-job training	15	84	70	14
43-4081	Hotel, Motel, and Resort Desk Clerks	\$14.41	High school diploma or equivalent	Short-term on-the-job training	0	110	84	26
35-2014	Cooks, Restaurant	\$13.32	No formal educational credential	Moderate-term on-the-job training	21	307	261	46
35-3011	Bartenders	\$13.09	No formal educational credential	Short-term on-the-job training	0	199	180	19
53-3031	Driver/Sales Workers	\$12.96	High school diploma or equivalent	Short-term on-the-job training	0	128	109	19
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	\$12.17	No formal educational credential	Short-term on-the-job training	0	885	781	105
35-2015	Cooks, Short Order	\$12.04	No formal educational credential	Short-term on-the-job training	0	52	47	5
35-3041	Food Servers, Nonrestaurant	\$12.02	No formal educational credential	Short-term on-the-job training	0	111	97	14
35-2021	Food Preparation Workers	\$11.63	No formal educational credential	Short-term on-the-job training	0	331	296	35
37-2012	Maids and Housekeeping Cleaners	\$11.54	No formal educational credential	Short-term on-the-job training	0	428	348	81
35-9011	Dining Room and Cafeteria Attendants and Bartender Helpers	\$11.53	No formal educational credential	Short-term on-the-job training	0	176	156	20
35-9021	Dishwashers	\$11.51	No formal educational credential	Short-term on-the-job training	0	183	168	15
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	\$11.33	No formal educational credential	Short-term on-the-job training	0	205	190	15
35-3031	Waiters and Waitresses	\$11.21	No formal educational credential	Short-term on-the-job training	0	814	743	71
41-2011	Cashiers	\$11.13	No formal educational credential	Short-term on-the-job training	0	1999	1908	90
53-3041	Taxi Drivers and Chauffeurs	\$10.84	No formal educational credential	Short-term on-the-job training	0	260	173	87
35-2011	Cooks, Fast Food	\$10.84	No formal educational credential	Short-term on-the-job training	0	186	167	19
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	\$10.19	No formal educational credential	Short-term on-the-job training	0	1483	1293	190
35-3022	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	\$10.07	No formal educational credential	Short-term on-the-job training	0	294	264	30
39-3091	Amusement and Recreation Attendants	\$9.86	No formal educational credential	Short-term on-the-job training	0	148	134	14
39-3011	Gaming Dealers	\$9.75	High school diploma or equivalent	Short-term on-the-job training	0	81	52	29
Total		\$13.07			4684	9791	8688	1103

attrition) and openings for newly created jobs. recreation, tourism, and hospitality laborers, in addition to offering the most jobs in Prince George's County, also have both the greatest attrition and the largest number of new jobs.

### SUPPLY CHAIN ANALYSIS

Table 4.12.4., on the next page, provides a picture about the total demand in Prince George's County by all Prince George's County residents and businesses for products made by companies in the recreation, tourism, and hospitality cluster—worth a total of nearly \$3.8 billion in the region. Table 4.12.4. is sorted by the dollar value of demand being metin-region by Prince George's County businesses. In Table 4.12.4., we see that the companies in these sectors meet 75 % of Prince George's County demand for their products, while Prince George's County imports the other quarter of its needs for these products. This would indicate a market that is already saturated by local demand.

Table 4.12.5. shows the amount of goods and services sold by Prince George's County recreation, tourism, and hospitality companies both inside and outside the region. These companies sell almost \$4.3 billion of products or services, of which only \$1.5 billion is sold outside

Prince George's County. While this is a substantial revenue boost, it is only 34% of sales and an increased export market could further boost revenue not just in this industry cluster, but the entire county.

In summary, the recreation, tourism, and hospitality industry is a midsized industry cluster in the Prince George's County economy. Further, this cluster has potential to increase exports therefore increase room for more industries and more growth, which in turn will bring more revenue into the county. With sites such as National Harbor, the potential for growth is certainly available, it is now a matter of finding the necessary workers to fuel the potential growth.

This industry cluster employs all levels of skills and occupations, which overall pay a predominantly lower wage, the median wage from the top 25 occupations being only \$13.07. Despite this low entry level wage, the industry offer career pathways that require very little education to none past a high school diploma and almost no entry level requirements, giving almost any individual a foot in the door and a chance to climb the industry ladder. Building up the industry, its supply chain, and offering a high quality of life for those employed in recreation, tourism, and hospitality, are prime economic development efforts for Prince George's County that can capitalize on the strong foundation already present in the city.

 TABLE 4.12.4. Recreation, Tourism, and Hospitality Regional Demand Met by Prince George's County
 Companies

NAICS	INDUSTRY	2017 IN-REGION SALES	2017 % IN-REGION SALES	2017 EXPORTED SALES	2017 % EXPORTED SALES	2017 TOTAL SALES
722513	Limited-Service Restaurants	\$1,013,672,776	94.4%	\$60,403,666	5.6%	\$1,074,076,442
721110	Hotels (except Casino Hotels) and Motels	\$475,539,500	77.5%	\$137,945,274	22.5%	\$613,484,774
722511	Full-Service Restaurants	\$508,639,703	91.6%	\$46,797,386	8.4%	\$555,437,089
721120	Casino Hotels	\$119,413,066	26.3%	\$334,036,057	73.7%	\$453,449,123
561920	Convention and Trade Show Organizers	\$22,856,477	12.2%	\$164,150,603	87.8%	\$187,007,080
722320	Caterers	\$42,576,395	49.8%	\$42,894,716	50.2%	\$85,471,111
485320	Limousine Service	\$41,183,832	55.0%	\$33,657,610	45.0%	\$74,841,442
713110	Amusement and Theme Parks	\$69,793,600	97.0%	\$2,182,338	3.0%	\$71,975,938
722310	Food Service Contractors	\$59,418,917	98.0%	\$1,243,093	2.0%	\$60,662,010
711510	Independent Artists, Writers, and Performers	\$44,301,764	73.6%	\$15,869,726	26.4%	\$60,171,490
561599	All Other Travel Arrangement and Reservation Services	\$42,376,662	75.0%	\$14,153,791	25.0%	\$56,530,453
713940	Fitness and Recreational Sports Centers	\$53,617,475	98.0%	\$1,078,584	2.0%	\$54,696,059
485999	All Other Transit and Ground Passenger Transportation	\$9,303,222	18.0%	\$42,415,053	82.0%	\$51,718,275
722515	Snack and Nonalcoholic Beverage Bars	\$37,977,064	91.1%	\$3,688,746	8.9%	\$41,665,810
485310	Taxi Service	\$35,194,388	89.6%	\$4,081,812	10.4%	\$39,276,200
561510	TravelAgencies	\$25,842,865	74.7%	\$8,761,152	25.3%	\$34,604,017
453220	Gift, Novelty, and Souvenir Stores	\$16,283,229	59.0%	\$11,320,011	41.0%	\$27,603,240
711211	Sports Teams and Clubs	\$24,687,375	90.0%	\$2,757,829	10.0%	\$27,445,204
711211	Sports Teams and Clubs	\$24,687,375	90.0%	\$2,757,829	10.0%	\$27,445,204
713990	All Other Amusement and Recreation Industries	\$17,988,143	93.5%	\$1,250,953	6.5%	\$19,239,096
713910	Golf Courses and Country Clubs	\$15,311,895	84.9%	\$2,719,972	15.1%	\$18,031,867
711320	Promoters of Performing Arts, Sports, & Similar Events w/out Facilities	\$15,767,178	92.7%	\$1,235,770	7.3%	\$17,002,948
722410	Drinking Places (Alcoholic Beverages)	\$14,135,721	84.4%	\$2,616,952	15.6%	\$16,752,673
611620	Sports and Recreation Instruction	\$13,108,568	86.9%	\$1,974,026	13.1%	\$15,082,594
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	\$10,391,296	75.1%	\$3,443,204	24.9%	\$13,834,500
711219	Other Spectator Sports	\$11,147,481	84.7%	\$2,009,109	15.3%	\$13,156,590
711130	Musical Groups and Artists	\$8,956,880	73.6%	\$3,205,027	26.4%	\$12,161,907
711212	Racetracks	\$5,319,396	46.6%	\$6,100,071	53.4%	\$11,419,467
487110	Scenic and Sightseeing Transportation, Land	\$3,112,045	33.0%	\$6,316,360	67.0%	\$9,428,405
722514	Cafeterias, Grill Buffets, and Buffets	\$7,227,854	89.6%	\$838,376	10.4%	\$8,066,230
713950	Bowling Centers	\$5,635,108	77.1%	\$1,674,176	22.9%	\$7,309,284
485510	Charter Bus Industry	\$2,715,531	41.3%	\$3,862,548	58.7%	\$6,578,079
711310	Promoters of Performing Arts, Sports, & Similar Events w/ Facilities	\$4,228,648	84.2%	\$790,901	15.8%	\$5,019,549
711110	Theater Companies and Dinner Theaters	\$4,029,307	93.6%	\$277,588	6.4%	\$4,306,895
712120	Historical Sites	\$4,210,009	99.4%	\$24,552	0.6%	\$4,234,561
712110	Museums	\$3,107,609	89.2%	\$375,566	10.8%	\$3,483,175
713930	Marinas	\$3,322,467	98.0%	\$69,328	2.0%	\$3,391,795
711190	Other Performing ArtsCompanies	\$2,769,528	86.1%	\$447,224	13.9%	\$3,216,752
Total		\$2,819,850,349	74.4%	\$969,426,981	25.6%	\$3,789,277,332

TABLE 4.12.5. Prince George's County Recreation, Tourism, and Hospitality Companies Sales in Region and Exported Out of Region

NAICS	INDUSTRY	2017 DEMAND MET IN-REGION	2017 % DEMAND MET IN-REGION	2017 DEMAND MET By imports	2017 % DEMAND MET BY IMPORTS	2017 TOTAL DEMAND
722511	Full-Service Restaurants	\$508,639,703	48.0%	\$550,800,024	52.0%	\$1,059,439,728
722513	Limited-Service Restaurants	\$1,013,672,776	98.7%	\$13,199,810	1.3%	\$1,026,872,586
721110	Hotels (except Casino Hotels) and Motels	\$475,539,499	80.3%	\$117,030,708	19.7%	\$592,570,208
721120	Casino Hotels	\$119,413,067	100.0%	\$102	0.0%	\$119,413,169
713940	Fitness and Recreational Sports Centers	\$53,617,475	45.9%	\$63,095,989	54.1%	\$116,713,464
713910	Golf Courses and Country Clubs	\$15,311,894	15.4%	\$84,220,029	84.6%	\$99,531,923
722310	Food Service Contractors	\$59,418,917	60.4%	\$39,037,521	39.6%	\$98,456,437
711211	Sports Teams and Clubs	\$24,687,375	28.7%	\$61,212,777	71.3%	\$85,900,152
711211	Sports Teams and Clubs	\$24,687,375	28.7%	\$61,212,777	71.3%	\$85,900,152
711510	Independent Artists, Writers, and Performers	\$44,301,764	54.0%	\$37,674,559	46.0%	\$81,976,322
713110	Amusement and Theme Parks	\$69,793,600	90.3%	\$7,495,942	9.7%	\$77,289,542
561510	TravelAgencies	\$25,842,865	35.7%	\$46,531,848	64.3%	\$72,374,714
722515	Snack and Nonalcoholic Beverage Bars	\$37,977,064	53.9%	\$32,443,066	46.1%	\$70,420,130
453220	Gift, Novelty, and Souvenir Stores	\$16,283,230	26.4%	\$45,433,653	73.6%	\$61,716,883
561599	All Other Travel Arrangement and Reservation Services	\$42,376,662	81.0%	\$9,963,361	19.0%	\$52,340,024
722410	Drinking Places (Alcoholic Beverages)	\$14,135,721	27.3%	\$37,632,555	72.7%	\$51,768,276
713990	All Other Amusement and Recreation Industries	\$17,988,143	37.3%	\$30,191,628	62.7%	\$48,179,770
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	\$4,228,648	9.1%	\$42,416,317	90.9%	\$46,644,966
722320	Caterers	\$42,576,395	99.3%	\$316,250	0.7%	\$42,892,646
711130	Musical Groups and Artists	\$8,956,880	21.6%	\$32,573,542	78.4%	\$41,530,422
485320	Limousine Service	\$41,183,832	99.7%	\$133,010	0.3%	\$41,316,842
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures	\$10,391,296	26.5%	\$28,830,537	73.5%	\$39,221,833
712110	Museums	\$3,107,608	8.6%	\$33,172,315	91.4%	\$36,279,924
485310	Taxi Service	\$35,194,388	98.7%	\$467,382	1.3%	\$35,661,771
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	\$15,767,178	51.9%	\$14,614,123	48.1%	\$30,381,301
711110	Theater Companies and Dinner Theaters	\$4,029,307	13.5%	\$25,712,119	86.5%	\$29,741,426
611620	Sports and Recreation Instruction	\$13,108,568	56.1%	\$10,274,122	43.9%	\$23,382,690
561920	Convention and Trade Show Organizers	\$22,856,478	100.0%	\$5,461	0.0%	\$22,861,939
713930	Marinas	\$3,322,467	22.7%	\$11,304,006	77.3%	\$14,626,473
722514	Cafeterias, Grill Buffets, and Buffets	\$7,227,854	49.5%	\$7,383,302	50.5%	\$14,611,156
713950	Bowling Centers	\$5,635,109	39.6%	\$8,582,137	60.4%	\$14,217,246
711219	Other Spectator Sports	\$11,147,481	90.0%	\$1,242,740	10.0%	\$12,390,221
485999	All Other Transit and Ground Passenger Transportation	\$9,303,223	92.8%	\$720,806	7.2%	\$10,024,029
485510	Charter Bus Industry	\$2,715,530	38.5%	\$4,334,612	61.5%	\$7,050,143
711212	Racetracks	\$5,319,396	99.8%	\$10,562	0.2%	\$5,329,958
712120	Historical Sites	\$4,210,010	94.0%	\$268,047	6.0%	\$4,478,057
711190	Other Performing ArtsCompanies	\$2,769,527	62.1%	\$1,691,781	37.9%	\$4,461,308
487110	Scenic and Sightseeing Transportation, Land	\$3,112,045	99.1%	\$29,466	0.9%	\$3,141,512
Total		\$2,819,850,351	65.9%	\$1,461,258,990	34.1%	\$4,281,109,341

Source: Emsi Developer 2018.2 dataset

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# RECOMMENDATIONS

### 1. INCREASE COMMUNICATION AND COLLABORATION

Prince George's County has an active Workforce Board, labor organizations, State Employment Services, and other workforce-related programs. Together, these provide great regional cooperation and collaboration. Nonetheless, during the group discussions, companies expressed interest in working more closely with educators. Requesting corporate support for specific programs, events, school activities, and community efforts can draw commitment from the companies with local operations. One model for doing this is the North Louisiana Partnership's effort in strengthening alignment between industry, education and workforce development. A best practice is to attract industry champions to provide leadership for such groups as well as administrative, technical and advocacy support.

Create a platform where industry can be the leader in partnering with education and government to tackle workforce issues that are inherent to all. An industry-led group to meet on task-oriented issues will not only push workforce to the forefront but will provide long-term benefits to the region. We suggest finding a reputable business leader to be the industry champion and have them spearhead the group and discussion. The group will list workforce issues and see if there are any underlying solutions to provide this new "Workforce Development Task Force." The group will meet monthly (to keep momentum) until the task is complete. Once completed, if there are no other issues, the group can disband until another issue arises—keeping in mind not to waste the time of industry partners. At this time, the group should be comfortable with each other to be able to reorganize and regain traction when needed. Other efforts that can help improve communication, collaboration, and awareness of what the manufacturing and construction fields has to offer could include (some areas in the County are already doing these):

- Reverse career fair
- Manufacturing week
- · Hands-on field trips
- Career day: engage students and educate them about the career opportunities within skilled trade industries. Students get the opportunity to talk with local business owners to learn about the many different careers our community has to offer.
- Leverage recently retired manufacturers to build relationship with college and industry

### **Best Practices:**

- Sector Partnership Model: http://www.sectorstrategies.org/toolkit/introduction
- Teacher Externship (summer classroom module for teachers and

counselors): manufacturers, construction trades, and engineering firms bring teachers to their facilities for externship to boost workforce development efforts – teachers create curriculum around what they learned on the floor from their week-long manufacturing tour

- · Technical high school
- Connecting industry to classroom (people in industry can talk to students about careers). Best practice: Nepris https://www. nepris.com/
- Diploma Pathway (Louisiana legislation): http://www.louisianabelieves.com/ courses
- See Cincinnati's Agenda 360 as a model for conducting a resultsdriven Strategic Planning initiative http://www.cincinnatichamber. com/agenda360/#.WirH80qnFPY
- Sector based Transportation Strategies: http://web1.ctaa.org/ webmodules/webarticles/anmviewer.asp?a=2617

Areas to increase interactions and communication:

- Underemployed
- Business engagement in K-12
- Business-to-business
- Entrepreneurs
- Developers and the broader community

# 2. MARKET AND BRAND SKILLED TRADE SECTORS

After decades of job loss and a struggling reputation, manufacturing has made a comeback in the United States. Since the recession, production jobs have increased—and so have the knowledge and skill requirements. An industry regarded as dirty, loud and dangerous must do more to attract young people with the skills needed for modern manufacturing, while companies should promote their technology in the 21st century as exciting, cutting-edge, clean, safe and fun along with the high wages that often follow. Manufacturing and other skilled trades sectors need to rebrand themselves just as STEM once did. Relevant information about the business needs and industry perks should be communicated to students, all the way down to the elementary school level. This is not a recommendation to change how teachers do their jobs, but to better equip teachers and, therefore, students about the job opportunities available to them after high school.

Specifically, the wage opportunities available to those that do the work to acquire the necessary skills and qualifications during high school. Those that would choose to enter the workforce and possess the right qualifications could be earning a higher wage than their peers leaving college and without the debt.

Students, parents, and teachers must be properly equipped with all the necessary information about the job market and what is available to students after graduation, and in some cases, before. This information prepares students for the workforce and a quick transition into a lifelong career.

Work with partners to develop a regional public relations campaign that creates a unified message that focuses on the skilled trades.

### 3. VETERANS PROGRAMS

There were some businesses that take advantage of the veterans exiting nearby military bases. However, only a couple businesses seemed to be taking advantage of some of the Veterans Programs available for workforce training and talent attraction efforts. Transition remains difficult for many veterans and families. A variety of reasons for this are suggested in a study conducted by Dr. Fred Mael (Clarskville, TN), such as mismatch of skills to civilian employer requirements, mistranslation of skills, negative perceptions from both parties regarding the other (soldier and civilian employer), veteran stress at "starting over", and often immediate financial loss for the veteran and family (usually stemming from loss of significant benefits in housing and other financial support provided by the military).

Dr. Mael's study highlights the factors that contribute successful transition from military to civilian labor force, which include:

- Personality
- · Family influences
- Age/experience
- MOS (military occupation)
- Personal characteristics
- Leader attitudes
- · Accepting loss of status and power
- Patience
- Adaptability
- "All in"
- A realistic transition time frame
- · Openness to networking
- · Openness to information seeking
- Realistic job search preview
- Resume preparation
- · Interview preparation

He suggests that programs and counseling efforts can enhance these traits for exiting military. Furthermore, Dr. Mael's study highlights efforts that employers and workforce and economic developers can do. These include:

- Employer programs to facilitate social integration and workplace friendships
- · Mentoring in the workplace
- Protocol for onboarding veterans
- · Educate hiring managers

There are many veterans' employment programs that could help integrate this population, if known. One challenge businesses indicated is knowing resources (all, not only veterans programs) available to them. For government and agencies:

- · Programs and tax incentives to hire veterans
- · Coordinated efforts to better link veterans with employers
- Understand best practices by states and companies
- · Classification system for job search readiness
- · Track new veteran hires and identify critical junctures
- · Identify/adapt relevant networking training
- Make case for preferring hiring veteran's spouses

# 4. EMPLOYING SKILLED, FOREIGN NATIONALS AND IMMIGRANTS

Prince George's County is home to many foreign-born individuals and immigrants. These people often come equipped with skills, qualifications, and degrees that need to be transferred to the U.S. equivalent. Having a foreign degree transferred to the U.S. equivalent can be a significant cost barrier for a newly settled immigrant and the process often results in the degree being downgraded, if accepted at all (i.e. downgrading a bachelor's degree to an associate degree). While this might sound not worth it, its costs can be as little as a few hundred dollars which, when compared to going back to school and starting over, costs significantly less in both time and money. This is a skilled and talented workforce ready to work. Businesses have the opportunity to attract this untapped labor pool. Paying for degree evaluation and employing them on a temporary basis until their qualifications are certified, are just a few solutions in leveraging such talent. Even if the degree were to come back downgraded, it is often the case that the candidate can perform the duties that the company needs, or should they have their foot in the door, the company can make a decision as to other employment opportunities for the individual should their work ethic be satisfactory.

This could be a very low risk investment for employers since the cost of processing the degree is minimal and foreign nationals often have a strong work ethic and sense of loyalty to a company. Foreign-born nationals are willing to show up on-time and are ready to work.

### 5. IMPLEMENTING CAREER PATHWAYS

For industries and business to thrive, career pathways in Prince George's County must be more than a theory or an idea. It must be an adopted practice by all business owners. This starts with industries understanding their own career pathways. A surprisingly amount of business owners are not aware of their own career pathways. An industry standard career pathway is one that could lead to a better understanding of business-specific pathways as well as give employers a base to shape what their own businesses career pathways might look like. This helps employers as they bring in new entry level positions to communicate what success in a position looks like and how it can help them progress in the company.

#### Other recommendations include:

6. R E S O U R C E S – finding and knowing what resources are available has been difficult for businesses to access. A resource directory is a first start followed by other methods of dispersing resource information, such as in monthly newsletters, webinars, podcasts, etc.

7. A P P R E N T I C E S H I P M O D E L – Maryland has a well utilized apprenticeship model. However, during discussions, it was agreed upon that the model needs to be reviewed and updated.

8. RETAIL/FOODSERVICE "UNIVERSITY" – the retail and food service industries struggle with finding individuals with customer service skills. An employee training program upon onboarding helps provide those necessary attributes to succeed in a hospitality atmosphere. Trainings should incorporate the business mission, how to dress, how to act, and how to address customer needs and meet client expectations– to name a few. Chick-Fil-A's "second-mile service" is an example of a successful employee training program.

9 . A M O R E C O N S I S T E N T S T A N D A R D I Z E D T E S T T H A T S C R E E N S A P P L I C A N T S – specific to each industry. There are different testing mechanisms in place, however, businesses are implementing their own that seem to be a good model to use for most.

10. SUCCESSION PLANNING - for all sectors

# CONCLUSION

Prince George's County's highly productive workforce sets itself apart from other areas across the region. It also comprises one of the most diverse regions, demographically, in the country. Economically, Prince George's County relies heavily on government contracts and funding, like many of the surrounding counties. However, there is a mismatch in residents' skills and employer needs which is largely a result of a disparity in wages and education.

With lower than average poverty rates, no real income disparity, and above average wages; it doesn't appear to be any real societal concerns until you look at education—high dropout rates, low testing scores, and extreme absentee rates. The habitual nature of attending school daily, persevering through graduation, and applying one's self along the way are critical components of succeeding in the workplace.

However, there is a higher share of people who have earned a graduate degree or higher but also a large share of those with less than a high school diploma. There is more to this equation as well—wages. It is difficult for Prince George's County employers to compete against the larger metro area. Government contracts and unions coupled with a diminishing number of individuals holding a driver's license and able to pass a drug test.

There is a lack of soft (also referred to as essential) skills across all

industry sectors, whereas the trades have difficulty finding qualified workers in almost every capacity. On the other hand, professional-type positions are easily filled with qualified candidates while many entry level positions go unfilled. With government comprising nearly 30% of the economic base and while a large portion of those jobs are professional in nature, these entities struggle to find the positions that keep the facilities in operation.

Problem-solving and customer service were two skills arising in every employer need. The healthcare industry faces some of the largest deficits of hard skills and certifications. CNAs, PMTs, and CMAs are three of many certifications in constant need. The manufacturing and construction fields continue to struggle with the negative industry perception from young adults.

The challenges that face Prince George's County are not much different than for employers across the country. It's how a region manages those challenges that make a difference for their residents and businesses alike.

The County has one of the strongest assets a region strives for and works diligently to attract—a highly productive and highly educated workforce. Capitalizing on and leveraging the resources available in the workforce, education system, and business community will only move Prince George's ahead.