

# TAMPA BAY

## Regional Skills Analysis



# About

**CAREERSOURCE TAMPA BAY** (CSTB) serves as the local workforce development board for Region 15, Hillsborough County, as certified by CareerSource Florida. CSTB's mission is to connect employers with qualified, skilled talent and county residents with employment and career development opportunities to achieve economic prosperity.



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**EMSI** is a leading provider of labor market data to professionals in higher education, economic development, workforce development, talent acquisition, and site selection. Emsi data are used to solve a variety of problems: align programs with regional needs, equip students with career visions, understand regional economic and workforce activity, and find and hire the right talent. Emsi serves clients across the U.S., UK, and Canada.



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## Acknowledgements

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The opinions and recommendations expressed in this report are those of Emsi. These views should not be construed as representing the official policies of CSTB. Furthermore, any errors in this report are the responsibility of Emsi and not of any of the above-mentioned parties.



# Contents

- 4 Introduction
- 5 About the Tampa MSA
- 6 Key Insights
- 9 Emsi's Skill Cluster Methodology
- 12 Economic Overview of the Tampa MSA
- 19 Target Career Areas
- 26 Addressing Equity Gaps via Reskilling Opportunities
- 38 Conclusion
- 39 Appendix

# Introduction

**CAREERSOURCE TAMPA BAY** (CSTB) serves as the local workforce development board for Hillsborough County, one of four counties comprising the Tampa-St. Petersburg-Clearwater metropolitan statistical area (Tampa MSA)<sup>1</sup>. CSTB's mission is to connect employers with qualified, skilled talent and county residents with employment and career development opportunities to achieve economic prosperity. However, high-wage and high-value careers seem out of reach for many residents in and around Hillsborough County.

Numerous, complex issues compound the prevention of access to in-demand jobs. Namely, the persistence of barriers to higher education and employment has led to a lack of critical, in-demand skills, which is particularly evident among communities of color in the region. The resulting labor shortages from such skill gaps strains both employers and municipal leaders. Furthermore, skill gaps strain local communities, too, as Tampa neighborhoods continue to struggle with growing income inequality.

No single solution will enhance access to in-demand jobs for communities of color, however, leveraging labor market information (LMI) to identify key skill gaps and career pathway opportunities enables Tampa leaders to proactively—and efficiently—engage in workforce development. Furthermore, understanding career pathways demonstrates how traditionally excluded populations represent a tremendous asset of human capital that can fill key skill gaps. In turn, LMI can alter the historical inability of education and workforce systems to address inequity.

To address this challenge, CSTB partnered with Emsi to strengthen data-based decisions to close workforce equity gaps. The Tampa MSA Regional Skills Analysis provides a snapshot of in-demand jobs that present opportunities to aid workforce development efforts, including career pathways for students and residents in the region with little job experience or post-secondary education. This report along with the Emsi SkillScape tool uses Emsi Skills—an advanced clustering data model—along with other relevant labor market insights as of June 2021. This report and Emsi SkillScape are designed to promote Tampa stakeholder engagement and deepen the relationship between regional employers and its residents, to advance upskilling and reskilling opportunities.



<sup>1</sup> The Tampa MSA is comprised of Hillsborough, Hernando, Pasco, and Pinellas Counties in Florida.



# About the Tampa MSA



In 2020, the Tampa MSA had a population of 3.3 million, and the region represents the second largest MSA in Florida, behind the Miami-Fort Lauderdale-Pompano Beach MSA (6.2 million people in 2020). The Tampa MSA is also among the 20 largest MSAs in the U.S.

The Tampa MSA has a large share of employment in the Professional, Scientific, & Technical Services and Finance & Insurance industry sectors, as the region is the state's center for business and information service activity. In addition, the Tampa MSA is a tourist and recreation destination, with a large share of employment in the Retail Trade and Accommodation & Food Services industry sectors. Note that since Emsi Skills analyzes regional data from a career area (occupational) perspective, workers in these industry sectors are distributed throughout numerous career groups.

Demographically, the Tampa MSA is slightly less diverse than the state of Florida. The region's 2020 Hispanic and Black populations represent about 20% and 12% of the total population, whereas Florida's Hispanic and Black populations represent about 25% and 15% of the total population, respectively. The analysis in this report focuses on the entire region's workforce, and Hispanic and Black workers comprise an estimated 21% and 14% share of the MSA's labor pool, respectively. Furthermore, the Tampa MSA's labor pool is evenly split by gender: 50% female and 50% male. These results align with the region's population, which is 51% female and 49% male.

About 1.4 million workers are employed in the Tampa MSA, spanning 20 Emsi Skills-defined career areas. Hispanic workers account for about 291,800 of the region's workers, and Black workers account for about 198,100 of the region's workers.

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*The Tampa MSA is the state's center for **business and information service** activity. In addition, the region is a **tourist and recreation** destination.*

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# Key Insights



## 1 Business & Finance; Healthcare; Hospitality, Recreation, & Personal Services; and IT & Math show promise of short- and long-term resiliency

Four career areas have been identified as opportunities to address equity gaps in the Tampa MSA because they remain in high demand, despite broader economic challenges caused by COVID-19, and provide transitions from a wide array of backgrounds. However, job transition should focus on good-paying jobs in the four career areas. Examples of in-demand fields in the four career areas are:

Overall, the four career areas represent about **40%** of the region’s total employment

CAREER AREA	EXAMPLES
 <b>Business &amp; Finance</b>	Accounting/bookkeeping, logistics, and marketing/public relations
 <b>Healthcare</b>	Nursing, medical technology, and pharmacy/therapy services
 <b>Hospitality, Recreation, &amp; Personal Services</b>	Personal services
 <b>IT &amp; Math</b>	Computer support, web development, and system administration

In the Tampa MSA, the economic downturn in 2020 led to a substantial decline in job postings, but job postings have since recovered. The four target career

areas combined have seen a 25% increase in postings between January 2019 and December 2020. Employment in the region has yet to fully recover. Overall, the four career areas represent about 40% of the region's total employment and jobs in them decreased by 3% between 2019 and 2020.

The target career areas reflect the job makeup of driver industries in the Tampa MSA, like the insurance, professional services, and accommodation sectors, and emerging, high-growth areas like the arts, real estate, and warehousing & storage. The target career areas, particularly Business & Finance and IT & Math are also representative of the MSA's status as Florida's center for business and information service activity.

**2 Despite having a larger concentration of talent in Business & Finance and Hospitality, Recreation, & Personal Services compared to the U.S. average, only the former is experiencing a substantial gap between employer demand and workforce supply in Tampa**



The larger share of talent in these target career areas relative to the U.S. demonstrates that the Tampa MSA as a hub for business and tourism. Meanwhile, the supply-demand gap in the Business & Finance career area sheds light on the growing need for these workers across all facets of the economy.

**3 Significant overrepresentation exists within low-paying but in-demand career areas—Transportation & Warehousing—for three target populations in Tampa (Black, Hispanic, and male workers)**

The Black and Hispanic working populations represent 14% and 21% of 2020 jobs in the Tampa MSA, respectively. Male workers account for half of the jobs. Yet in the Transportation & Warehousing career area, Black workers comprise 20%

of the workforce, Hispanic workers account for 25%, and male workers account for 75%. Online retail has caused a surge in jobs for warehouse laborers, forklift operators, and materials movers, and the demand for this career area has followed suit. In the Tampa MSA, postings have increased for Warehousing jobs in the last two years. Stockers & order fillers, for example, had a 46% growth, but the occupation has an hourly wage of less than \$13.00.

#### 4 More than 10 roles have been identified in Tampa as the initial step of career pathway opportunities to address equity gaps

The low-wage roles, found in a variety of entry level positions like caregiving, retail sales, and food service, have transition opportunities into in-demand careers, particularly those in Business & Finance, Healthcare, and IT & Math. The new roles provide excellent entry-level experience for workers to gain foundational skills that can translate to better paying, more secure roles in the future.

Nearly all identified pathway opportunity roles have an overrepresentation of Black, Hispanic, female, or male workers in the Tampa MSA. Many, particularly those in caregiving and food service, have above-average employment in several of the target populations. All told, the opportunity roles present a substantial supply of regional workers to transition into a diverse set of in-demand careers, including business analysis, drafting & engineering, and supply chain management.

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*The opportunity roles present a **substantial supply** of regional workers to transition into a diverse set of **in-demand careers**.*

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# Emsi’s Skill Cluster Methodology

Emsi is a leader in advanced labor market analytics, including the development of skills data, and aims to better connect job seekers and employers. For over 20 years, Emsi’s economists and data scientists have been taking traditional LMI and industry data and making it understandable and actionable for clients. Emsi Skills represents the next evolution of analyzing LMI and leverages novel insights from online job postings and professional resumes.

## Skills Clustering and Quantifying Supply and Demand

Emsi aggregates the widely used federal statistical standard of more than 850 detailed occupations codified in the Standard Occupational Classification (SOC) system, breaking those into more manageable and user-friendly career areas and career sub-areas.

Emsi’s Career Areas are comprised from groups of occupations, aggregated by the occupations’ skills		
<ul style="list-style-type: none"><li>• Agriculture &amp; Forestry</li><li>• Architecture &amp; Engineering</li><li>• Art, Entertainment &amp; Media</li><li>• Business &amp; Finance</li><li>• Construction &amp; Excavation</li><li>• Education, Curation, &amp; Library Services</li><li>• Healthcare</li></ul>	<ul style="list-style-type: none"><li>• Hospitality, Recreation, &amp; Personal Services</li><li>• Information Technology (IT) &amp; Math</li><li>• Installation &amp; Repair</li><li>• Legal</li><li>• Military</li><li>• Natural Sciences</li></ul>	<ul style="list-style-type: none"><li>• Office &amp; Administrative Services</li><li>• Production &amp; Manufacturing</li><li>• Protective Services</li><li>• Sales &amp; Customer Service</li><li>• Social Sciences &amp; Services</li><li>• Transportation &amp; Warehousing</li></ul>

Rather than reporting results by occupational titles (for example, “software engineer”) Emsi analyzes the specific skills needed for a job (for example, “coding in Python”), giving a clearer picture of what a job applicant needs to be able to do in order to get hired. Skills data in job postings are analyzed at the scale of career sub-areas (such as “Software Development/Programming”) for specific regions, using statistical methods that account for the relationships between skills in job postings. The result is sets of skill clusters for a given region and career sub-area, reflecting the kinds of roles that employers are posting for based on the skills they seek.

Skill supply, skill demand, and the difference between them—skill gaps and surpluses—are all modeled estimates, based on profiles (talent supply) and job postings (market demand) that match to clusters, scaled according to the Bureau of Labor Statistics (BLS) jobs data (numbers of actual jobs and annual job openings).



**Please note that while the incorporation of traditional LMI like employment data from the BLS enhances Emsi Skills data, online profiles and job postings are inherently biased toward certain roles.** Consequently, the data presented in this report should not be directly compared to traditional LMI, such as employment data from the BLS. Employment data from the BLS aids Emsi Skills data in better reflecting a regional labor market, however, the supply of talent in Emsi Skills does not directly correlate to traditional employment data on any standardized scale.

Ultimately, the skills data in the Tampa MSA demonstrates the region's evolution into a hub for in-demand career areas that require complex, highly technical skillsets. Emsi Skills highlight these sought-after skills. The examples contained in this report are explicitly chosen based on the data to showcase opportunities for regional stakeholders to create efficient training pipelines and ensure inclusive, equitable growth for underrepresented populations in the Tampa MSA.

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*The skills data in the Tampa MSA demonstrates the region's evolution into **a hub for in-demand career areas** that require complex, highly technical skillsets.*

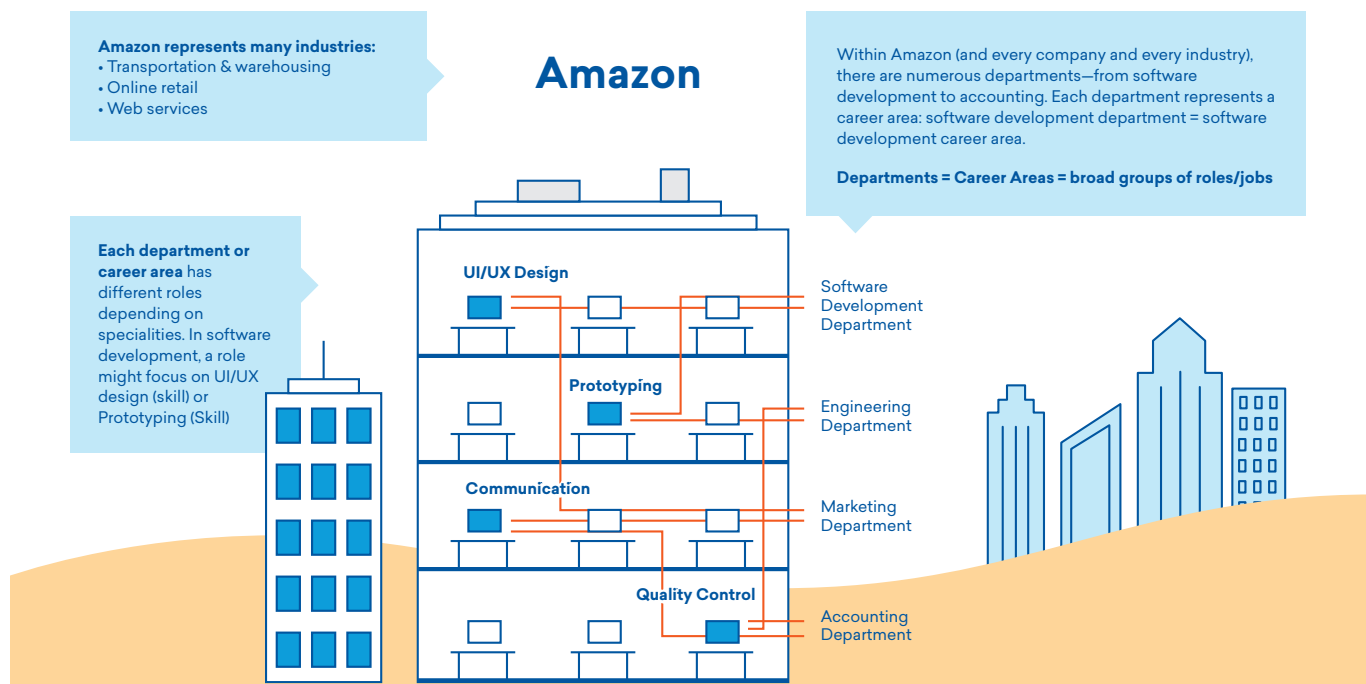
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# Industries and Occupations vs. Career Areas and Roles

When reading this report, remember that Emsi Skills language has a foundation related to SOC codes—not *industry North American Industry Classification System (NAICS) codes*. The latter are used for classifying, collecting, analyzing, and publishing business establishment data for the industry that provides a certain good or service, while SOC codes identify the workers employed by business establishments.

For example, the Business & Finance career area (Emsi's broadest occupational group) has one of the largest supply of workers in the Tampa MSA. This career area represents all the different types of Business & Finance roles or jobs—including financial accountants, logistics analysts, and human resource representatives. Therefore, in this report, the Business & Finance career area does *not* represent companies from an industry perspective such as banks, financial advising, and insurance firms. Instead, Business & Finance represents the aforementioned roles or occupations that can be found across every industry—every company or organization in the Tampa MSA, ranging from private firms like CitiGroup and CRST to non-profit or public organizations like BayCare HomeCare, Hillsborough County Public Schools, and the State of Florida. All these business establishments require Business & Finance *workers*.

See the graphic below using Amazon as an example to better understand the difference between industry, occupation, and skills data.



# Economic Overview of the Tampa MSA



**THIS SECTION INTRODUCES** high-level LMI data at the career area level for jobs in the Tampa MSA. In the following figures and tables, data show a comparison of the region's share of talent relative to that of the U.S., the workforce makeup from a demographic lens, and the most substantial shortages of talent supply and market demand, measured by skill competencies. Each component of the economic overview will shed light on the strengths and opportunities in the Tampa MSA, particularly where there are differences between job opportunities and Black, Hispanic, and gender-specific employment. The tumultuous economic effects of COVID-19,<sup>2</sup> particularly on already underrepresented populations, have only amplified the need to tackle equity challenges. The identification of key skill gaps serves as the first step in exploring workforce-readiness solutions for CSTB.

## Employment by Career Area

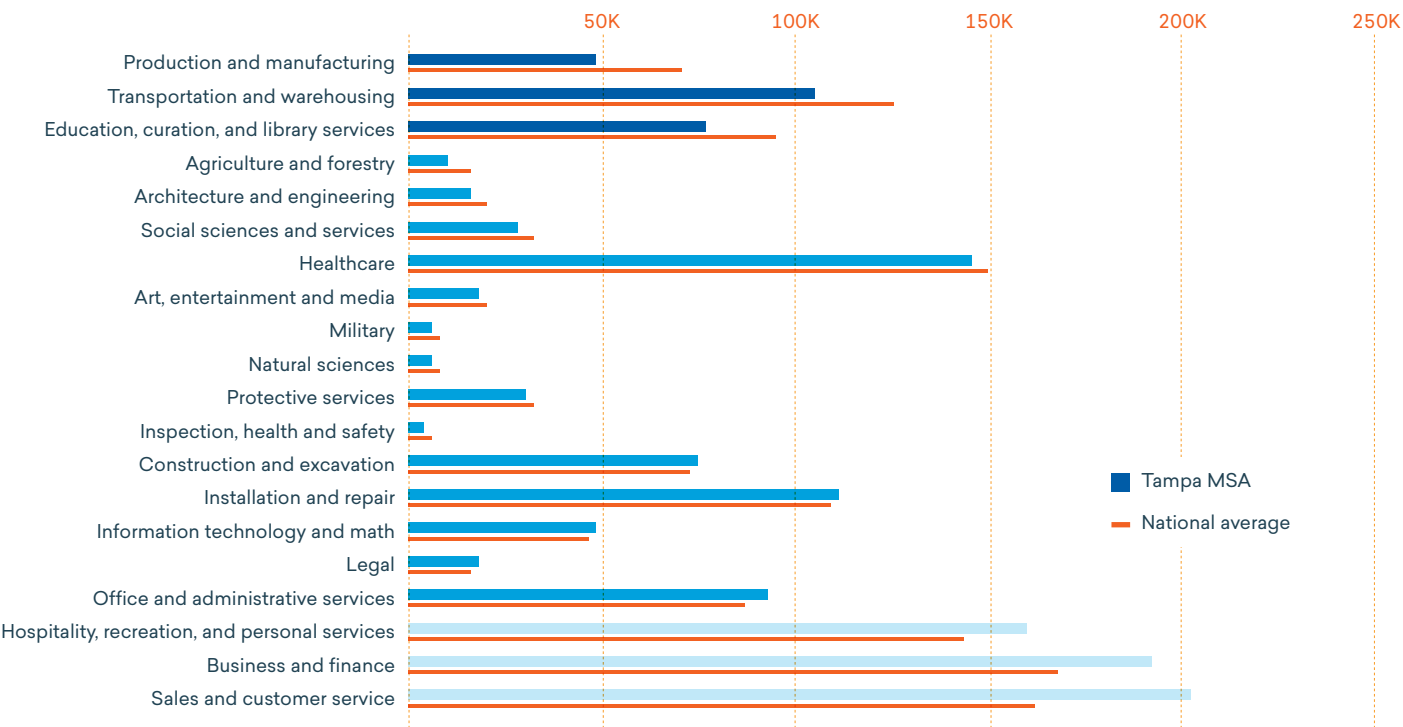
Sales & Customer Service, Business & Finance, and Hospitality, Recreation, & Personal Services have the greatest career areas employment in the Tampa MSA. Furthermore, all three have a higher share of regional employment compared to the national average, shown in light blue in Figure 1. For example, an estimated 203,900 workers are employed in Sales & Customer Service occupations, whereas

<sup>2</sup> COVID-19 refers to the coronavirus disease of 2019, caused by the coronavirus known as SARS-CoV-2.



a typical region in the U.S. the size of the Tampa MSA should employ an estimated 162,600 workers in the career area. On the other hand, employment in several career areas is underrepresented in the Tampa MSA, shown in dark blue in the figure. They include Production & Manufacturing; Transportation & Warehousing; and Education, Curation, & Library Services. Nonetheless, regional employment in most of the career areas is like that of the national average (Table 1).

**FIGURE 1: EMPLOYMENT IN THE TAMPA MSA BY CAREER AREA WITH A COMPARISON TO THE NATIONAL AVERAGE (2020)**



Source: Emsi Skills and BLS employment.

**TABLE 1: CAREER AREAS IN THE TAMPA MSA WITH HIGHER, SIMILAR, AND LOWER LEVELS OF EMPLOYMENT THAN THE NATIONAL AVERAGE (2020)**

FLORIDA SHARE OF TALENT SUPPLY RELATIVE TO U.S.		
Higher	Equal	Lower
<ul style="list-style-type: none"> <li>Business and Finance</li> <li>Hospitality, Recreation, and Personal Services</li> <li>Sales and Customer Service</li> </ul>	<ul style="list-style-type: none"> <li>Agriculture and Forestry</li> <li>Architecture and Engineering</li> <li>Art, Entertainment and Media</li> <li>Construction and Excavation</li> <li>Healthcare</li> <li>IT and Math</li> <li>Inspection, Health and Safety</li> <li>Installation and Repair</li> <li>Legal</li> <li>Military</li> <li>Natural Sciences</li> <li>Office and Administrative Services</li> <li>Protective Services</li> <li>Social Sciences and Services</li> </ul>	<ul style="list-style-type: none"> <li>Education, Curation, and Library Services</li> <li>Production and Manufacturing</li> <li>Transportation and Warehousing</li> </ul>

Source: Emsi Skills and BLS employment.

CSTB aims to create equitable, sustainable growth in Hillsborough County. As such, part of this analysis focuses upon job inequity in the Tampa MSA by race/ethnicity and gender. Table 2 shows the region's median annual salary and 2020 employment for each of the career areas. It also includes the career area's share of employment by Black, Hispanic, female, and male workers. Note that the median annual salary for the Tampa MSA is \$59,350 and the region's overall share of Black, Hispanic, female, and male workers is 14%, 21%, 50%, and 50%, respectively.

Several career areas are overrepresented, in terms of the employment of target populations, and have median annual salaries above the region's average. Shown in the table in blue, these are regional strengths. For example, 18% of all Healthcare workers are Black, which is above the region's Black employment share (14%). The career area has a median annual salary of \$67,120, which is 13% above the region's average (\$59,350). Female workers are also overrepresented in Healthcare, accounting for 79% of the career area's employment.

A greater number of career areas are overrepresented in terms of employment and have median annual salaries below the region's average. Production & Manufacturing, for example, has the lowest median annual salary among all the career areas (\$40,020) and male workers account for 71% of the career area's employment. The career area is also overrepresented by Hispanic and Black workers. Other career areas overrepresented by two or more target populations with below-average salaries include Installation & Repair, Protective Services, and Transportation & Warehousing.

**TABLE 2: EMPLOYMENT IN THE TAMPA MSA BY CAREER AREA AND DEMOGRAPHIC CHARACTERISTICS (2020)**

Career Area	Median Annual Salary	2020 Jobs	% of Career Area Employment			
			Black	Hispanic	Female	Male
Information technology and math	\$89,150	48,917	10%	12%	27%	73%
Healthcare	\$67,120	146,897	18%	17%	79%	21%
Architecture and engineering	\$65,490	15,847	6%	13%	16%	84%
Business and finance	\$63,570	194,578	11%	15%	56%	44%
Inspection, health and safety	\$57,920	4,824	14%	21%	40%	60%
Military	\$56,800	6,408	19%	14%	11%	89%
Social sciences and services	\$55,240	27,728	20%	18%	64%	36%
Education, curation, and library services	\$49,730	78,333	14%	20%	76%	24%
Natural sciences	\$49,710	6,838	7%	13%	46%	54%
Legal	\$47,840	18,048	7%	14%	60%	40%
Art, entertainment and media	\$47,320	17,765	8%	16%	50%	50%
Construction and excavation	\$46,410	74,709	9%	30%	5%	95%
Sales and customer service	\$45,830	203,918	14%	20%	54%	46%
Hospitality, recreation & personal services	\$45,280	161,631	14%	20%	56%	44%
Transportation and warehousing	\$43,880	105,451	20%	25%	25%	75%
Protective services	\$43,730	30,288	22%	19%	24%	76%
Installation and repair	\$40,900	112,154	13%	30%	23%	77%
Production and manufacturing	\$40,020	48,231	15%	25%	29%	71%
<b>Tampa MSA</b>	<b>\$59,350</b>	<b>1,426,383</b>	<b>14%</b>	<b>21%</b>	<b>50%</b>	<b>50%</b>

Career areas are in descending order of median annual salary. Cells in blue highlight overrepresentation of target populations in career areas above the region's median annual salary, and cells in yellow highlight overrepresentation below the median annual salary.

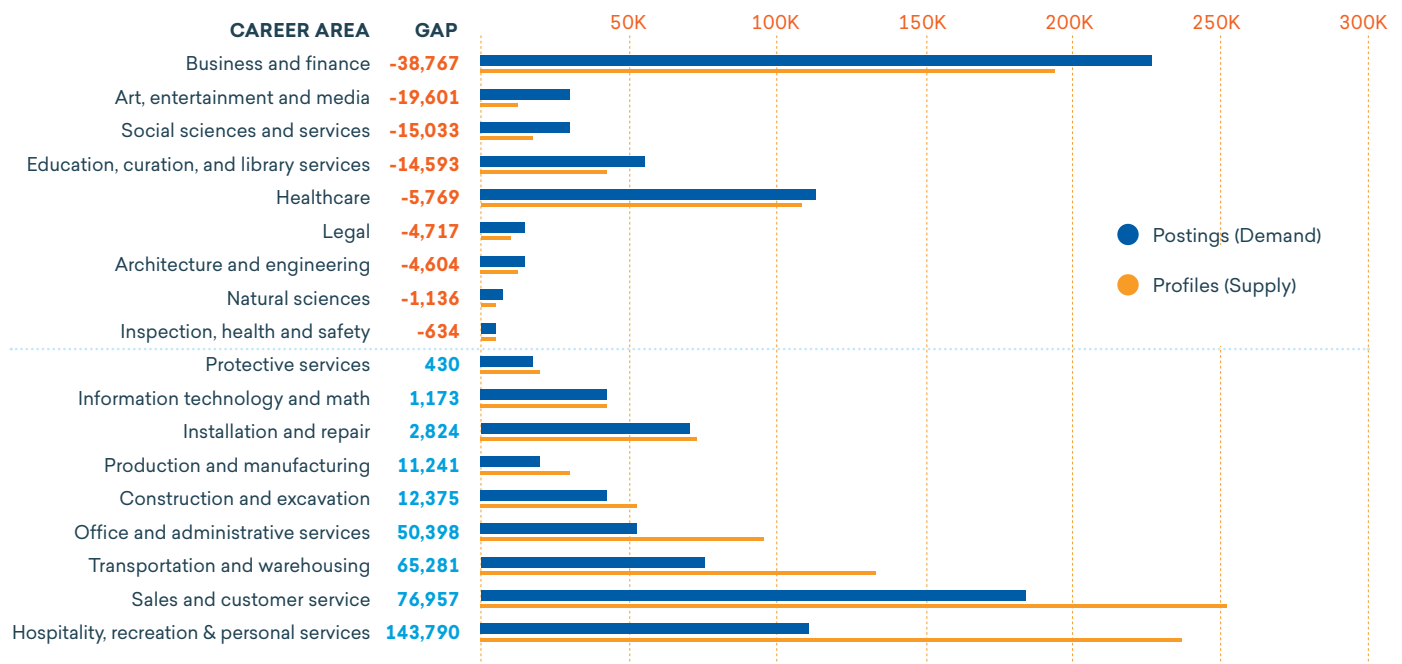
Source: Emsi Skills and BLS employment.

# Talent Supply and Employer Demand by Career Area

For the remainder of this report, data are derived from Emsi Profile Analytics, a database of professional profiles and resumes, and Emsi Job Posting Analytics (JPA), a database of more than 100 million online job postings. Profiles represent the region's talent supply, and postings, collected from January 2019 to December July 2020, represent employer demand.

While Profile Analytics updates monthly and JPA data are collected daily, regional skills analyses require a longer timeframe. Utilizing data collected over the two-year period results in stronger relationships between how skills coalesce, thereby providing more meaningful, statistically significant analysis. Additionally, understanding that long-term trends ultimately shape the future of the labor market and refraining from impulsive, short-term decision-making is both prudent and necessary from a policy perspective. For additional information and context on Emsi Skills methodology, please refer to the appendix included at the end of this report.

**FIGURE 2: ESTIMATED TALENT SUPPLY AND EMPLOYER DEMAND BY CAREER AREA IN THE TAMPA MSA (JANUARY 2019-DECEMBER 2020)**



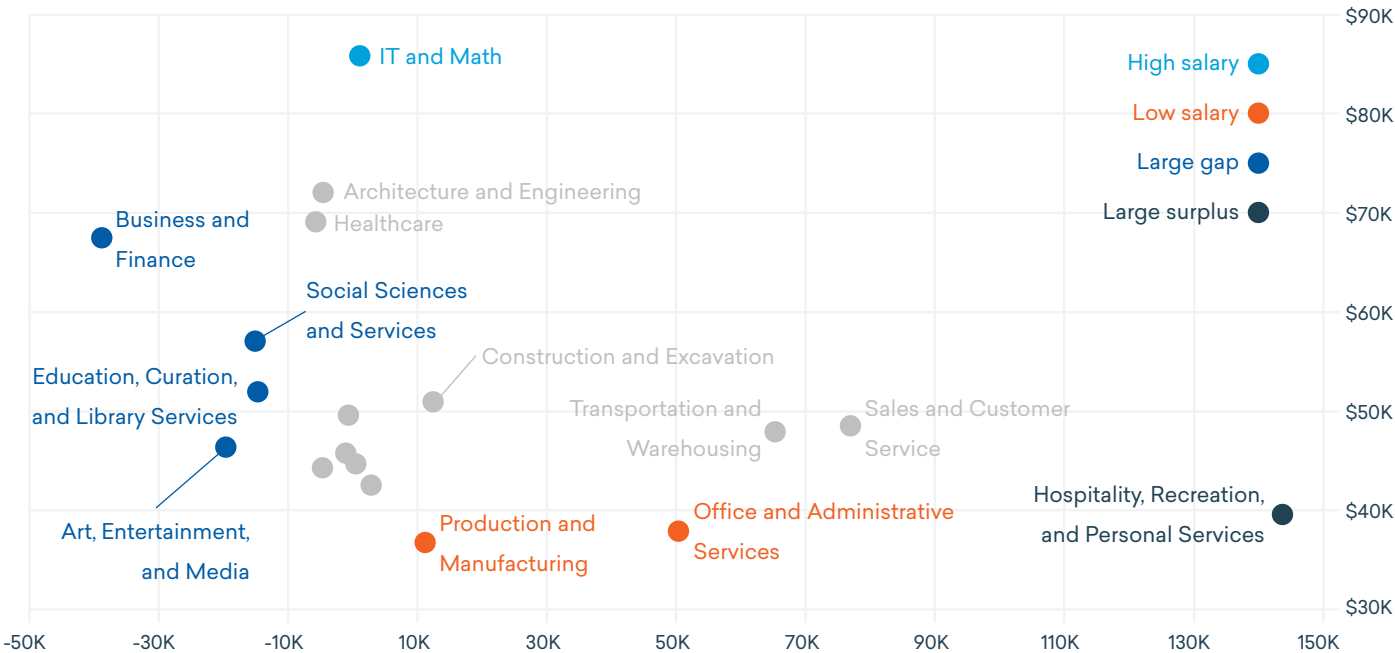
Career areas are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers, and a positive gap indicates a talent surplus among the region's workers.

Source: Emsi Skills.

As shown in Figure 2, the career areas with the greatest shortage of talent in the Tampa MSA are Business & Finance; Art, Entertainment, & Media; Social Sciences & Services; and Education, Curation, & Library Services. Note that the region's supply and demand for employment in Business & Finance far out-weighs employment in the other three career areas. On the other hand, Hospitality, Recreation, & Personal Services; Sales & Customer Service; and Transportation & Warehousing have the largest talent surpluses. Furthermore, talent supply in Hospitality, Recreation, & Personal Services and Sales & Customer Service represent the two largest career areas in the Tampa MSA.

The differences between the career areas' median annual salaries are illustrated in Figure 3. As stated previously, Business & Finance; Art, Entertainment, & Media; Social Sciences & Services; and Education, Curation, & Library Services have the largest negative gap or talent shortage, therefore the four career areas are found in the left-most area of the figure (shown in blue). Among the four, Business & Finance has the greatest median annual salary (\$67,480). IT & Math has the largest median annual salary (\$85,810) among all the career areas and is shown in light blue. On the contrary, Production & Manufacturing and Office & Administrative Services have the lowest salaries (\$36,760 and \$37,860, respectively) and are shown in orange. Hospitality, Recreation, & Personal Services is shown in dark blue, representing the career area with the largest positive gap or talent surplus.

**FIGURE 3: CAREER AREA SUPPLY-DEMAND GAPS IN THE TAMPA MSA WITH MEDIAN ANNUAL SALARY (JANUARY 2019-DECEMBER 2020)**



Career areas from Figure 2 are shown. Not all career areas are labeled. Inspection, Health, & Safety; Installation & Repair; Legal; Natural Sciences; and Protective Services have similar gaps and salaries. A negative gap indicates a talent shortage among the region's workers, and a positive gap indicates a talent surplus among the region's workers.

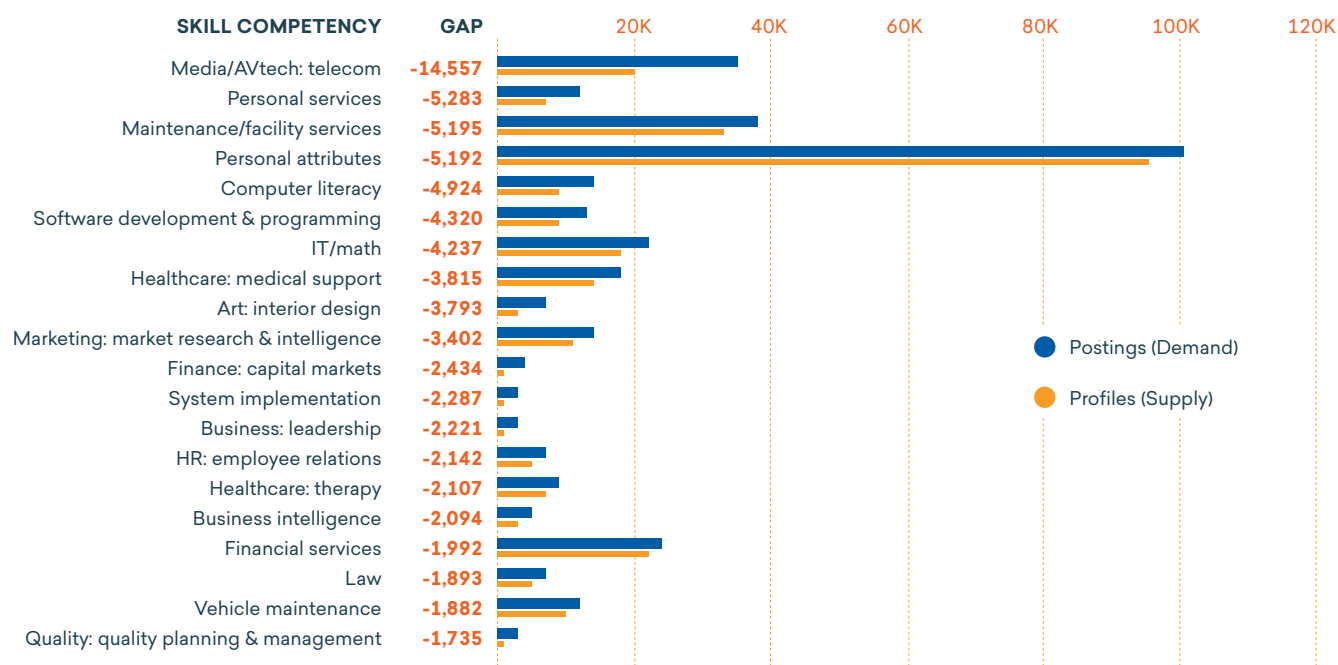
Source: Emsi Skills.



# Talent Shortages for In-Demand Skill Competencies

Skill competencies are composed of a broad collection of related skills. For a diverse career area like Business & Finance, more than 150 skill competencies are associated with its occupations. The career area includes skill competencies like Business: Leadership, Logistics, Quality/Compliance, Sales, and Software Development & Programming. Figure 4 shows the skill competencies with the largest negative gaps or skill shortages in the Tampa MSA.

**FIGURE 4: GREATEST TALENT SHORTAGES FOR SKILL COMPETENCIES IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers.

Source: Emsi Skills.

The skill competency with the greatest shortage of regional talent, by far, is Media/AVTech: Telecom. It is followed by Personal Services, Maintenance/Facility Services, Personal Attributes, and Computer Literacy. Note that the Tampa MSA's supply and demand for Personal Attribute skills are quite substantial. This skill competency is a foundational or soft skill workers need to thrive in a business environment—think of such skills as critical thinking, communication, and teamwork.

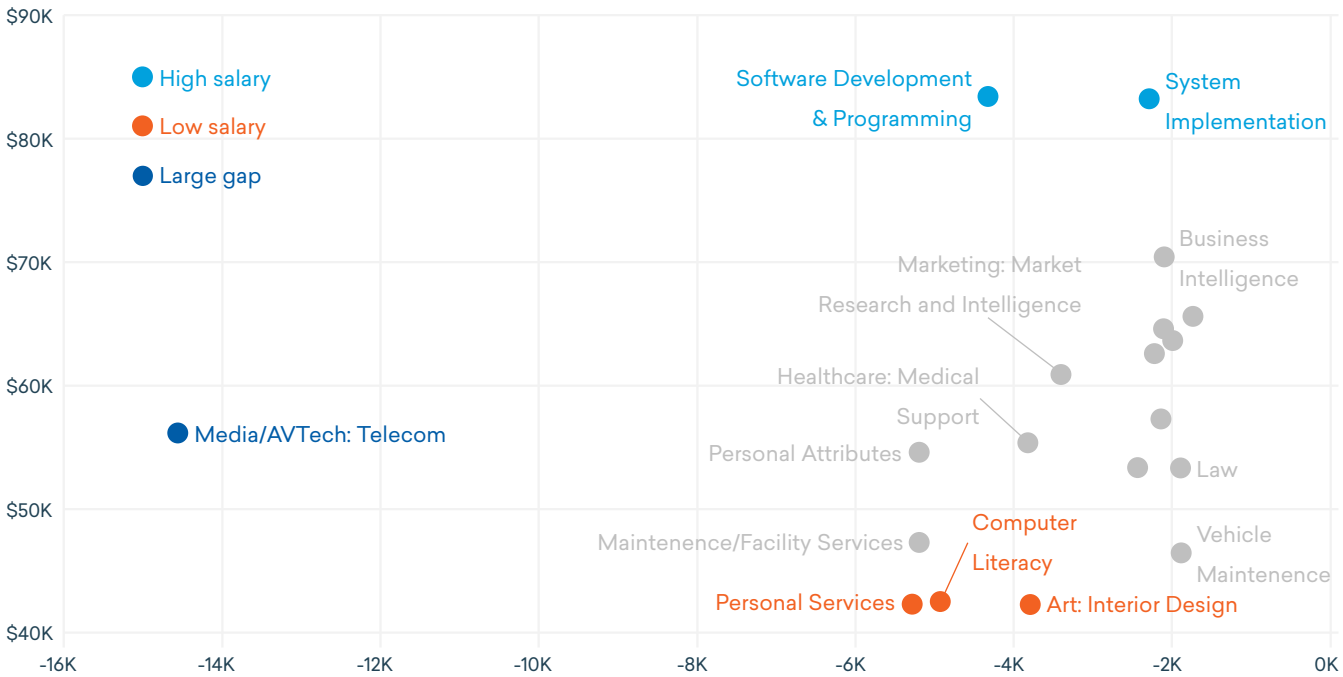
The talent shortage regarding Personal Attributes is difficult to discern because profiles do not share these skills as clearly as technical skills. For example, professional profiles and resumes are currently structured to quickly showcase technical skills gained from past and current experience, which are valuable in a future position. Thus, a job seeker in software development will likely prioritize

descriptions on a resume that demonstrate skill mastery in programming languages, such as UI/UX design proficiency, or even an acknowledgement of a completed data science course or certification. Yet, the sheer volume of the estimated supply and demand of the skill competency in the figure sheds light on how employers increasingly value soft skills during the hiring process.

Numerous technical skill competencies face skill shortages in the Tampa MSA, including Finance: Capital Markets, Marketing: Market Research & Intelligence, and Software Development & Programming. A programmatic approach to balancing both soft and technical skills in workforce preparation, education, and training could prove crucial in breaking down systemic barriers to long-term, gainful employment for the region's Black and Hispanic communities.

The differences between the skill competencies' median annual salaries are illustrated in Figure 5. As stated previously, Media/AVTech: Telecom has the largest negative gap or talent shortage, therefore the skill competency is found in the left-most area of the figure (shown in blue). System Implementation and Software Development & Programming have the largest salaries among all the skill competencies, with \$83,200 and \$83,380 respectively (shown in light blue). On the contrary, Art: Interior Design, Computer Literacy, and Personal Services have the lowest salaries (around \$42,300) among the skill competencies and are shown in orange. Ultimately, the results of the figure point to the skills most valuable in the Tampa MSA workforce.

**FIGURE 5:** GREATEST SUPPLY-DEMAND GAPS FOR SKILL COMPETENCIES IN THE TAMPA MSA BY MEDIAN ANNUAL SALARY (JANUARY 2019–DECEMBER 2020)



Skill competencies from Figure 4 are shown. Not all competencies are labeled. A negative gap indicates a skill shortage among the region's workers.  
Source: Emsi Skills.

# Target Career Areas

Based on the data available from Emsi Skills, four target career areas have been identified that represent opportunities to advance and promote equity measures in the Tampa MSA. The target career areas are:



**Business & Finance**



**IT & Math**



**Healthcare**



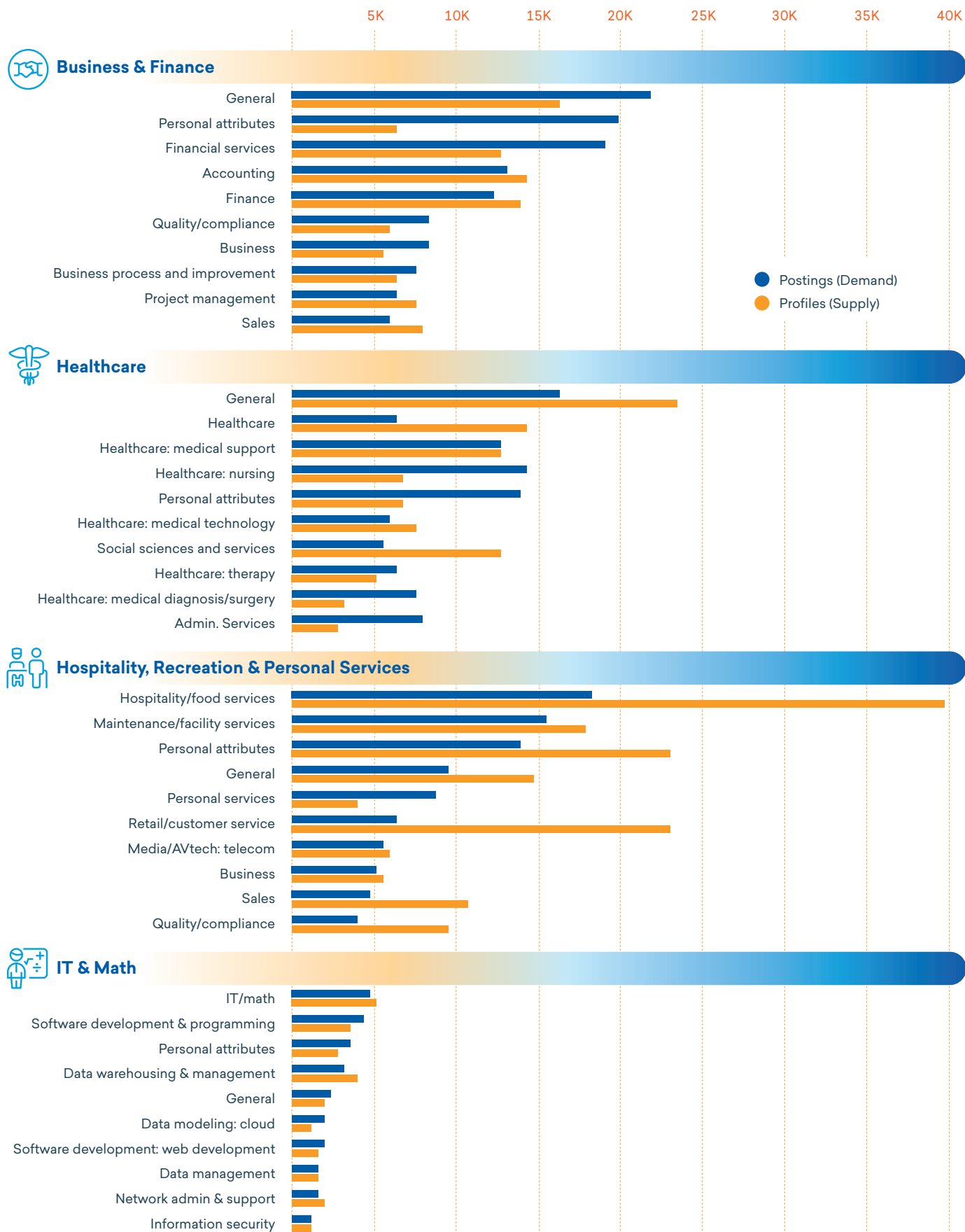
**Hospitality, Recreation & Personal Services**

## CRITERIA ANALYZED TO IDENTIFY THE TARGET CAREER AREAS INCLUDE:

- A diverse set of high-paying jobs for a range of experience and education levels,
- Strong historical job growth and an expectation for continued growth, as evidenced by a high employer demand relative to talent supply, and
- A wide array of career entry and growth opportunities to help workforce training and upskilling or reskilling efforts.
- A wide array of career entry and growth opportunities support workforce transitions, training, and upskilling/reskilling initiatives.

Figure 6 shows the most sought-after skill competencies in each career area, based on employer demand. In general, Business & Finance; Healthcare; and Hospitality, Recreation, & Personal Services have the strongest demand for skill competencies in the Tampa MSA. Among the 10 largest in-demand skill competencies in each of the four career areas, several appear in multiple career areas. General and Personal Attributes are found in all four career areas in the figure, which points to how valuable soft skills are to employers. In addition, Business, Quality/Compliance, and Sales overlap two career areas, which indicates how Tampa MSA workers can more easily transition between related roles.

FIGURE 6: TOP COMPETENCY GAPS REQUIRED FOR TARGET CAREER AREAS (JANUARY 2019–DECEMBER 2020)



Skill competencies are in ascending order of supply-demand gap.

Source: Emsi Skills.



## In-Demand Roles within Target Career Areas

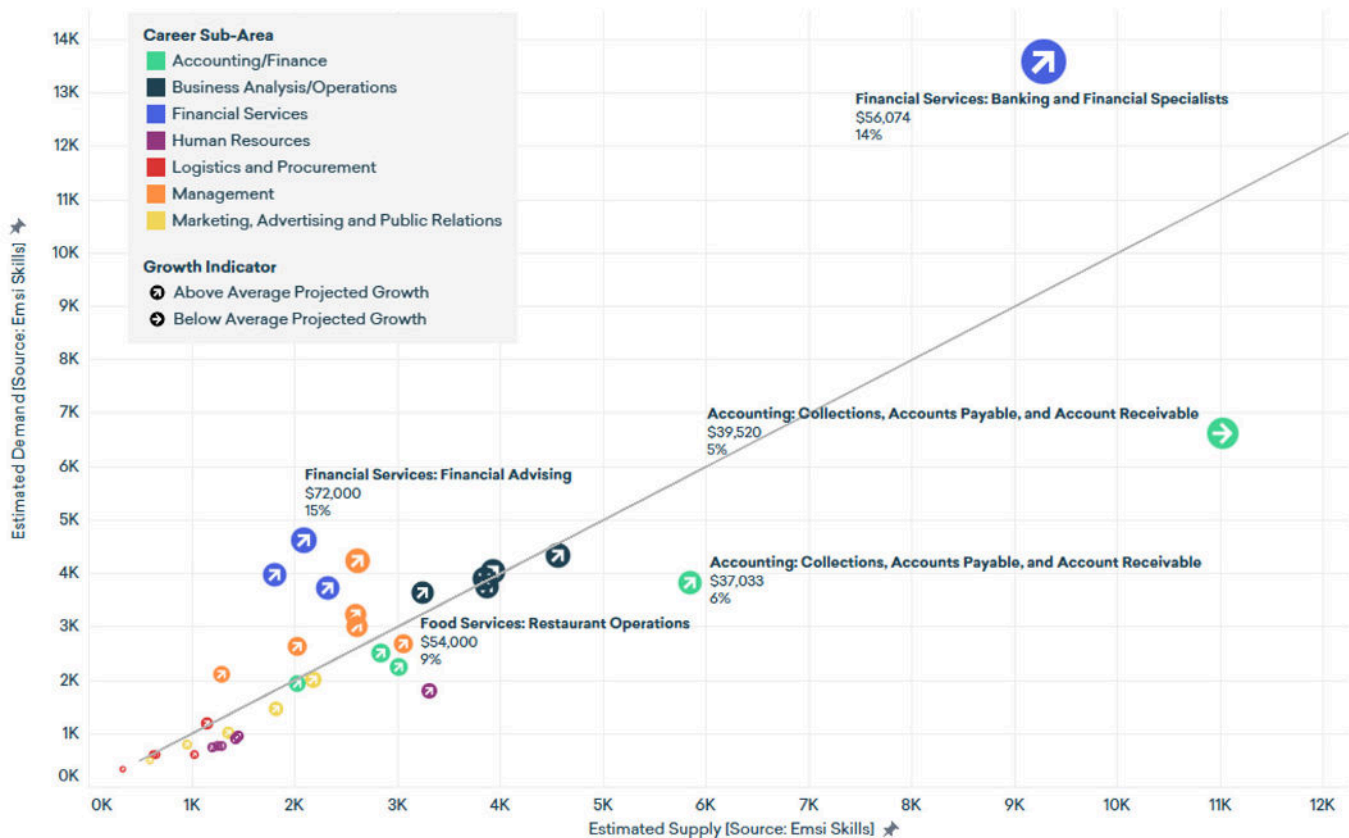


Numerous occupations are grouped into a career area, and the more detailed career sub-area is comprised of a smaller grouping, according to the Emsi Skills hierarchy. Roles, therefore, are an aggregation of skills that makeup the duties required to perform a job.

This section highlights the talent supply and employer demand of roles in the Tampa MSA within each of the four target career areas (Figure 7 to Figure 11). In each figure, the x-axis represents the region's estimated talent supply, and the y-axis represents the region's estimated employer demand. When talent supply and employer demand are equal, the Tampa MSA labor market is balanced, in terms of skills, as indicated by the diagonal line in each figure. All the roles within the career area are shown as a marker, the size of which is an indication of the role's number of postings (or employer demand). Detailed information near a marker shows the role's name, median salary, and projected growth from 2020 to 2025. Furthermore, each role has a growth indicator on the marker, representing the projected growth. Roles are color-coded by career sub-area, and the four career areas have between three to 10 different career sub-areas.

The supply and demand of roles in the Business & Finance career area are shown in Figure 7. Across all roles, Financial Services: Banking and Financial Specialists is, by far, the most in-demand among the region's employers, as indicated by the marker's size and position in the upper area of the figure. In addition, the role has a low supply-demand ratio, and its marker is above the supply-demand line. The ratio—0.68—means that for every two Tampa MSA workers with Financial Services: Banking and Financial Specialists skills, there

FIGURE 7: SUPPLY-DEMAND FOR BUSINESS & FINANCE ROLES IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)



are about three employers posting for jobs with those skills. On the other hand, the Accounting: Collections, Accounts Payable, & Accounts Receivable role (in green) has a 1.67 supply-demand ratio, and its marker falls below the supply-demand line. This ratio means that for every two employers posting for jobs with those skills, there are about three Tampa MSA workers with those skills—a talent surplus. In fact, the other roles in the Accounting/Finance career sub-area also have a talent surplus in the region, whereas Financial Services roles (in blue) are underrepresented and have a talent shortage.

Figure 8 demonstrates how Medical Support (in yellow) and Nursing (in dark green), to a lesser extent, dominate the Healthcare career area. The other career sub-areas are confined to the bottom-left area of the figure. Between the two career sub-areas, the Tampa MSA has a talent surplus of Medical Support occupations and a small talent shortage of Nursing occupations, seeing that the markers of the career sub-areas' roles are below and above the supply-talent line, respectively. Furthermore, Nursing salaries are substantially higher than those of Medical Support.

FIGURE 8: SUPPLY-DEMAND FOR HEALTHCARE ROLES IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)

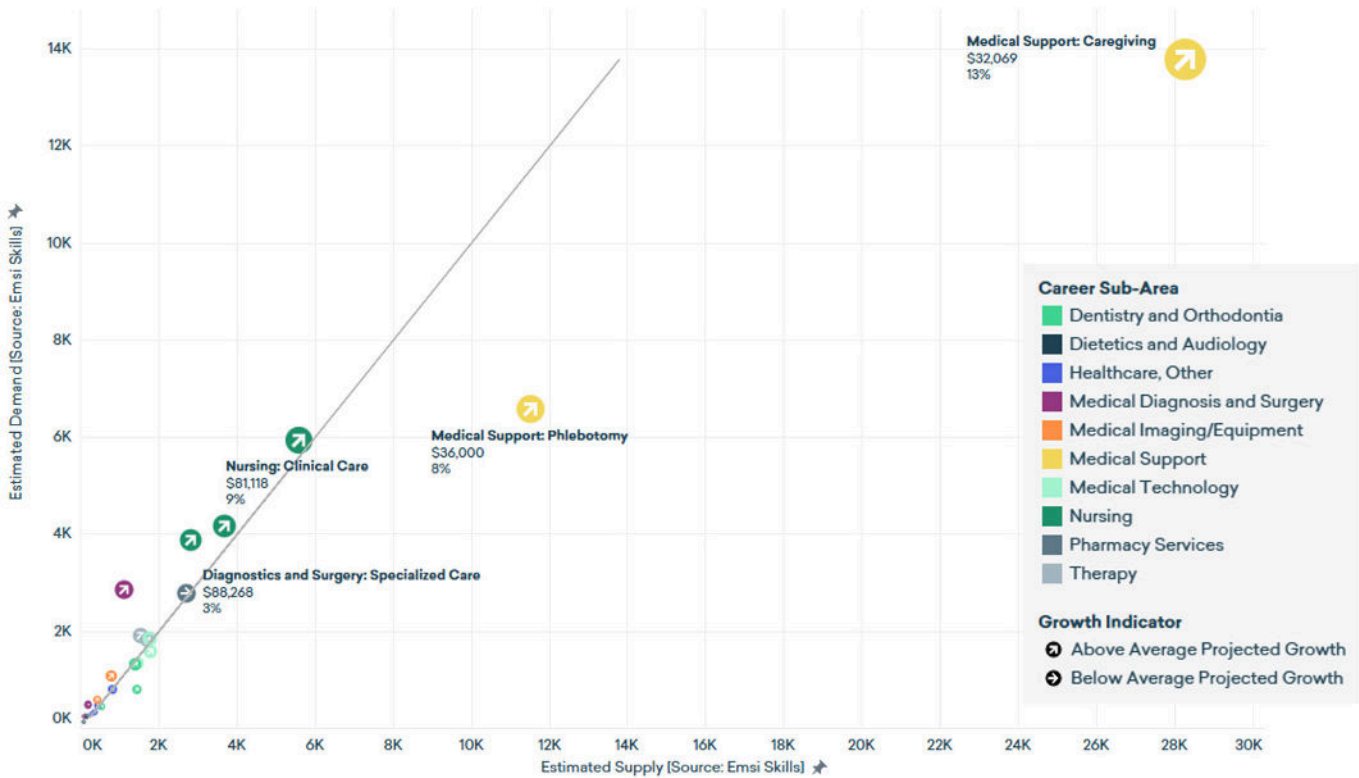
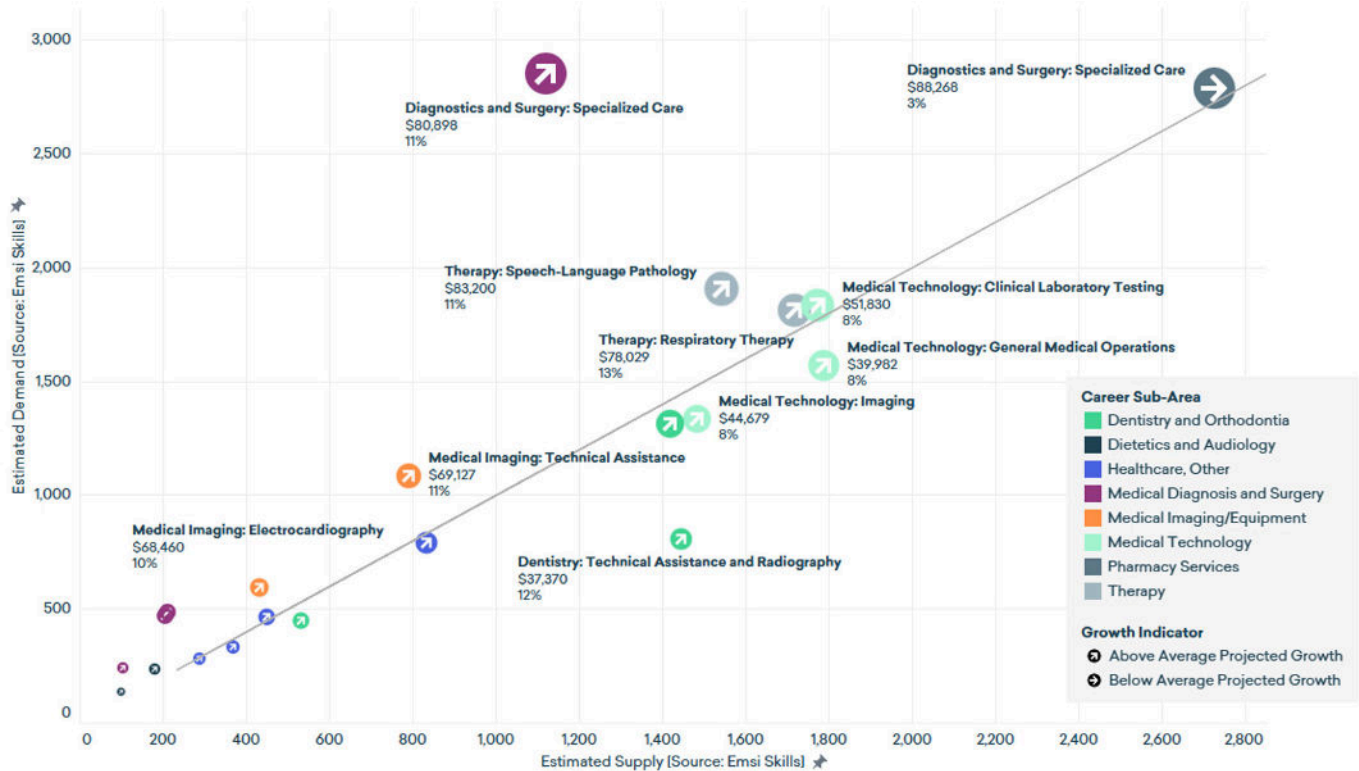


FIGURE 9: SUPPLY-DEMAND FOR HEALTHCARE ROLES (EXCLUDING NURSING AND MEDICAL SUPPORT) IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)



When the two career sub-areas are excluded from the figure, as shown in Figure 9, the supply and demand for Healthcare roles look quite different. Notably, the Diagnostics & Surgery: Specialized Care role, which occurs in two different career sub-areas, has a relatively large talent supply and employer demand. However, the role within the Medical Diagnosis & Surgery career area (in magenta) has the lower supply-demand ratio (0.39). Within the entire career area, roles with low salaries and large talent surpluses could provide a talent pipeline for reskilling Tampa MSA workers into other high salary, in-demand Healthcare occupations.

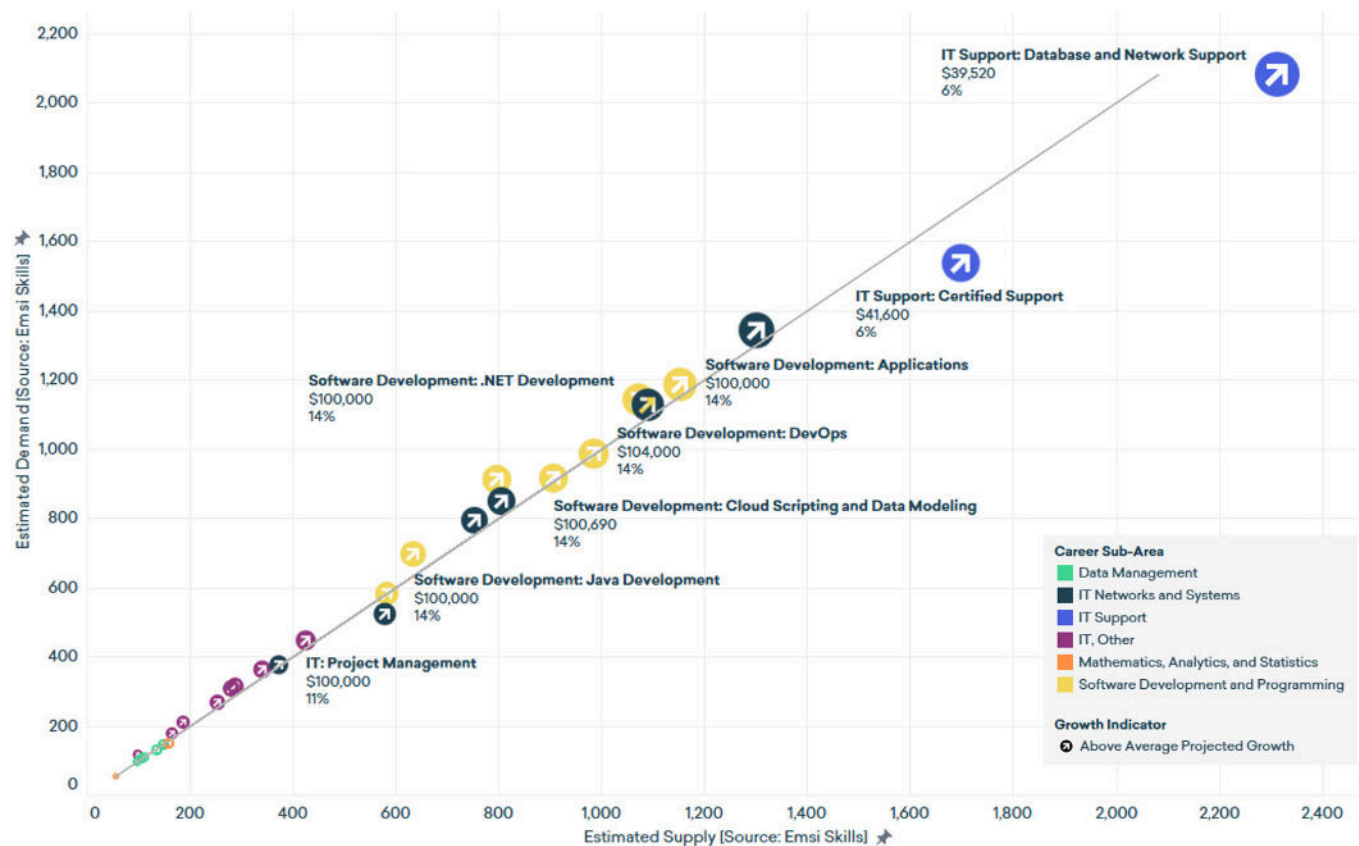
**FIGURE 10:** SUPPLY-DEMAND FOR HOSPITALITY, RECREATION, & PERSONAL SERVICES ROLES IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)



The Hospitality, Recreation, & Personal Services career area has the largest talent surplus in the Tampa MSA among all the career areas. The data shown in Figure 10 demonstrate which roles are driving that regional surplus. Food Services: Cooking, Food Services: Restaurant Management, and Hospitality: Hosting & Guest Services have supply-demand ratios greater than 3.0, meaning that for every employer posting for a job with those skills, there are more than three Tampa MSA workers with those skills. The three roles make up the Hospitality & Food Services career sub-area. The two other career sub-areas in Hospitality, Recreation, & Personal Services are better aligned with the region's talent supply and employer demand.



FIGURE 11: SUPPLY-DEMAND FOR IT & MATH ROLES IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)



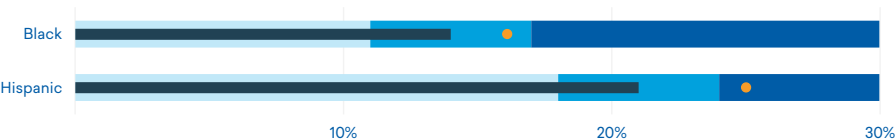
In the IT & Math career area, the region’s talent supply and employer demand are relatively well-balanced across every role (Figure 11). Roles in IT Support (in blue) are the most in-demand among the region’s employers, seeing that those markers are found in the upper-right area of the figure, whereas roles in Data Management (in green) and Mathematics, Analytics, & Statistics (in orange) are not as common and are found in the lower-left area of the figure. One of the smallest supply-demand ratios (0.87) among all the roles is for Software Development: Front End Development, an indication that such skills are in greater demand by the region’s employers. The role, shown in yellow, is one of many others in the Software Development & Programming career sub-area, but its regional talent supply is in greater demand.

# Addressing Equity Gaps via Reskilling Opportunities

**T**HE TAMPA MSA has numerous roles with talent surpluses and low salaries. Furthermore, some of these roles employ a higher concentration of Black, Hispanic, female, and male workers relative to other roles. In this section, these roles with equity gaps are identified, and the analysis focuses on how workers can transition to roles with higher employer demand and higher salaries in the region.

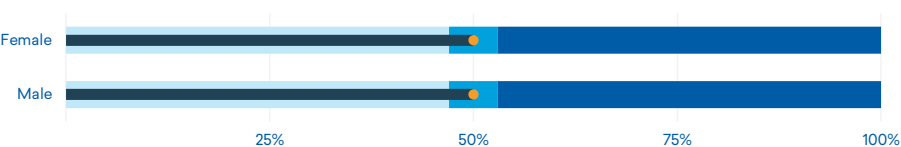
Before the results of the equity gaps are shown, further explanation is required as to how to define “low” and “high” employment in the region. Black workers account for 14% of all workers in the Tampa MSA, and Hispanic workers account for 21%, indicated by the dark blue lines in Figure 12. The state’s average for those target populations is 16% and 25%, respectively, indicated by the yellow markers in the figure. Furthermore, low employment for Black workers occurs when the workers accounts for less than 11% of total employment (in the career area, career sub-area, role, etc.), indicated by the lightest blue bar in the figure. On the other hand, high employment occurs when Black workers account for greater than 17% of total employment, indicated by the darkest blue bar. Low and high employment for Hispanic workers is less than 18% and greater than 24%, respectively. Figure 13 shows the high, average, and low employment bands for female and male workers. For both genders, low and high employment is less than 47% and greater than 53%, respectively.

**FIGURE 12: AVERAGE EMPLOYMENT IN THE TAMPA MSA BY RACE/ETHNICITY CHARACTERISTICS (2020)**



The blue bands depict low, average, and high employment in the region, and the marker is at the state average.  
Source: Emsi Skills and BLS employment.

**FIGURE 13: AVERAGE EMPLOYMENT IN THE TAMPA MSA BY GENDER CHARACTERISTICS (2020)**



The blue bands depict low, average, and high employment in the region, and the marker is at the state average.  
Source: Emsi Skills and BLS employment.

## Gaps by Race & Ethnicity

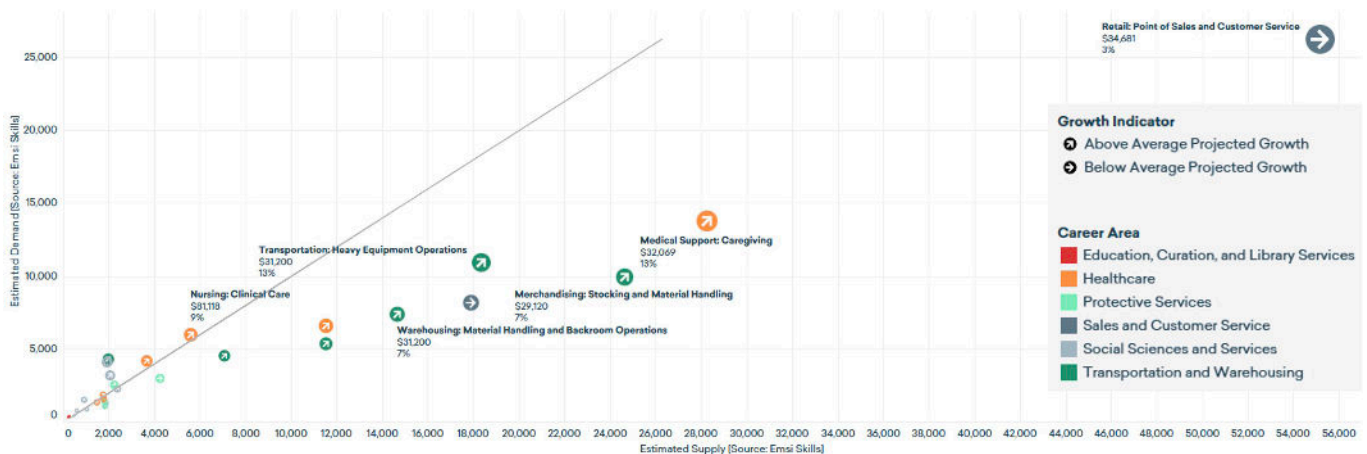


In the Tampa MSA, Black workers have high employment in the Healthcare, Sales & Customer Service, and Transportation & Warehousing career areas. More specifically, Black workers are overrepresented in medical support, retail, and warehousing positions, which tend to be associated with lower-paying jobs (Figure 14). The largest roles in the region, in terms of employer demand, with high Black employment are:

- Medical Support: Caregiving (23%)
- Transportation: Heavy Equipment Operations (22%)
- Merchandising: Stocking & Material Handling (19%)
- Retail: Point of Sales & Customer Service (17%)

The roles have salaries between \$29,120 for Merchandising: Stocking & Material Handling and \$34,681 for Retail: Point of Sales & Customer Service, which are

**FIGURE 14: SUPPLY-DEMAND FOR RESKILLING OPPORTUNITY ROLES IN THE TAMPA MSA FOR BLACK WORKERS (JANUARY 2019–DECEMBER 2020)**

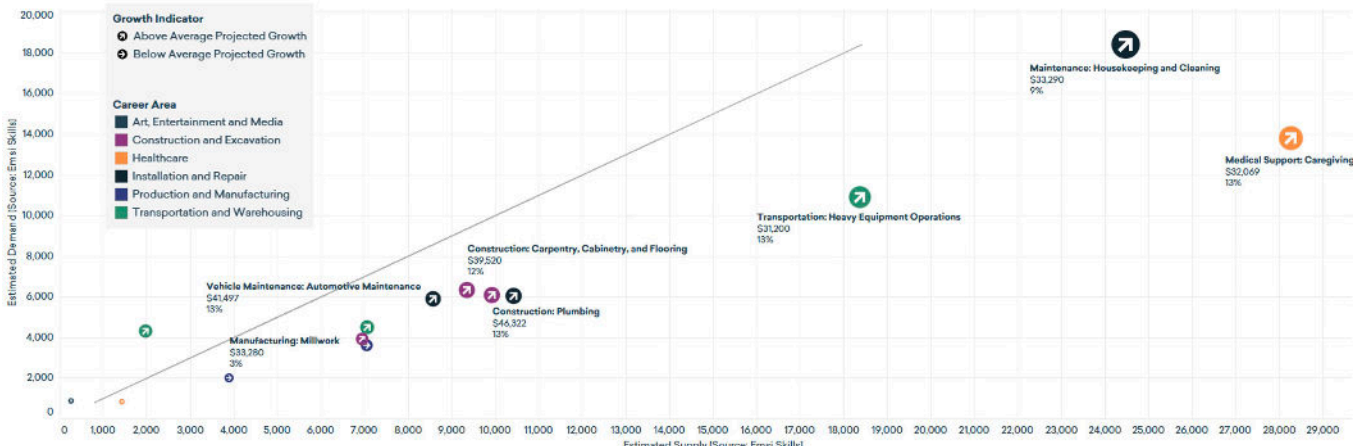


Source: Emsi Skills.

well below the Tampa MSA's average of \$59,350. All have a talent surplus—their markers are found below the supply-demand line—however, only the Retail: Point of Sales & Customer Service role is projected to decline in the next five years. In addition, the role, by far, has the largest employer demand in the Tampa MSA. Transition out of the Retail: Point of Sales & Customer Service role, as well as Medical Support: Caregiving, is discussed in the next section.

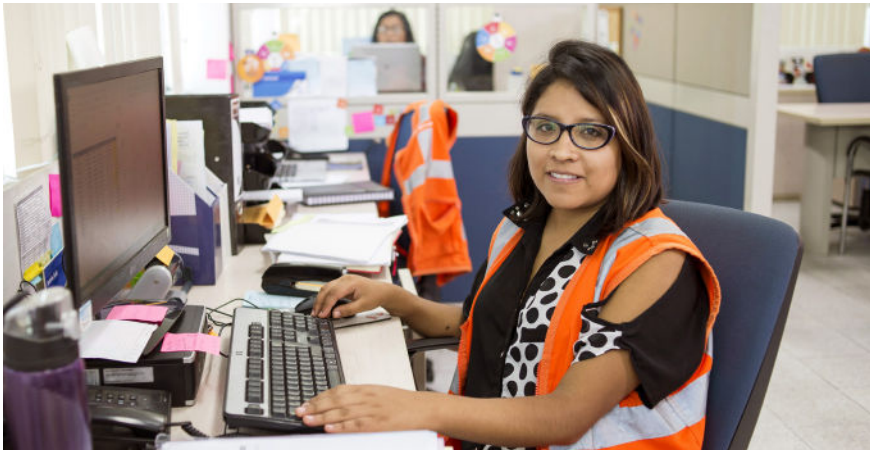
Hispanic workers have a high employment share in several roles, as shown in Figure 15. Among the three largest roles with the greatest employer demand, Hispanic workers account for 43% of the employment in Maintenance: Housekeeping & Cleaning roles, 29% in Transportation: Heavy Equipment Operations roles, and 27% in Medical Support: Caregiving roles. All three roles have supply-demand ratios greater than 1.33, an indication that the roles have a talent surplus, and the roles have median salaries around \$33,000. In other words, the three roles are likely targets for addressing equity gaps in the Tampa MSA. Transition out of the Maintenance: Housekeeping & Cleaning role and Medical Support: Caregiving role is discussed in the next section.

**FIGURE 15: SUPPLY-DEMAND FOR RESKILLING OPPORTUNITY ROLES IN THE TAMPA MSA FOR HISPANIC WORKERS (JANUARY 2019–DECEMBER 2020)**



Source: Emsi Skills.

## Gender Gaps



Across all the roles, female workers account for a high share of the employment in the Sales & Customer Service career area. This career area is marked in medium gray in Figure 16. More specifically, these Sales & Customer Service roles are:

- Sales & Marketing: Telemarketing & Call Center Operations (88%)
- Retail: Point of Sales & Customer Service (61%)
- Retail: Store Management (60%)

The two retail roles have the largest employer demand among all the roles with a high share of female workers. In addition, jobs in the roles are projected to decline in the next five years. Other roles with a high share and large employer demand include Maintenance: Housekeeping & Cleaning and Medical Support: Caregiving, roles in which female workers account for 56% and 85% of the

**FIGURE 16: SUPPLY-DEMAND FOR RESKILLING OPPORTUNITY ROLES IN THE TAMPA MSA FOR FEMALE WORKERS (JANUARY 2019–DECEMBER 2020)**

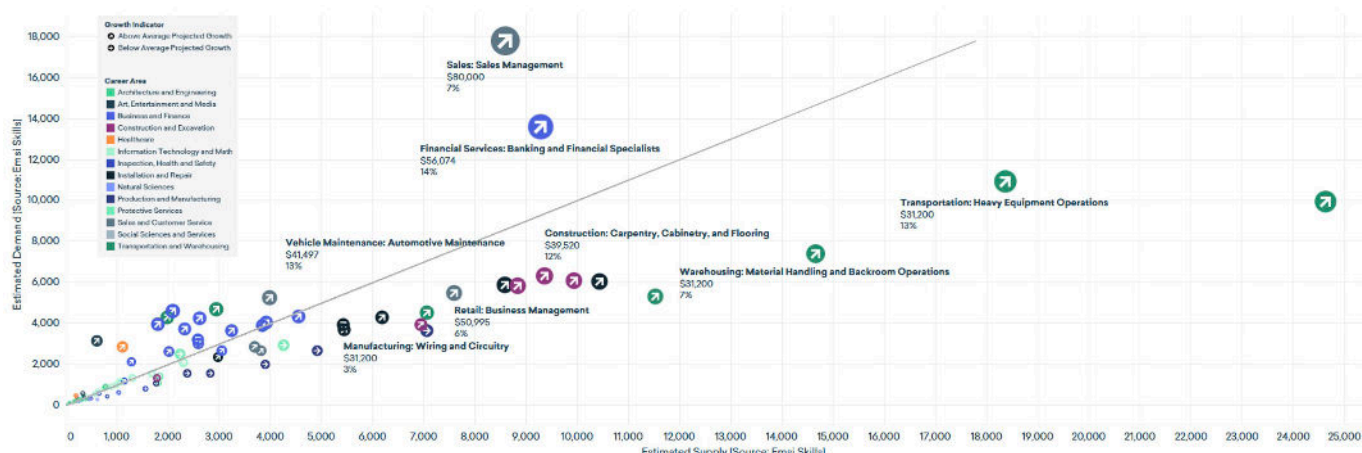


Source: Emsi Skills.



workers, respectively. Across all five roles, median salaries are between \$31,200 for Sales & Marketing: Telemarketing & Call Center Operations and \$34,681 for Retail: Point of Sales & Customer Service, which are well below the Tampa MSA's average of \$59,350. Transition out of the Maintenance: Housekeeping & Cleaning, Medical Support: Caregiving, and Retail: Point of Sales & Customer Service roles is discussed in the next section.

**FIGURE 17: SUPPLY-DEMAND FOR RESKILLING OPPORTUNITY ROLES IN THE TAMPA MSA FOR MALE WORKERS (JANUARY 2019–DECEMBER 2020)**



Source: Emsi Skills.

In the Tampa MSA, male workers have high employment in the Business & Finance, Construction & Excavation, and Transportation & Warehousing career areas. However, roles in the latter two tend to have lower salary positions with a large regional talent surplus. As shown in Figure 17, the largest roles in the region with a talent surplus and a high share of male workers, include:

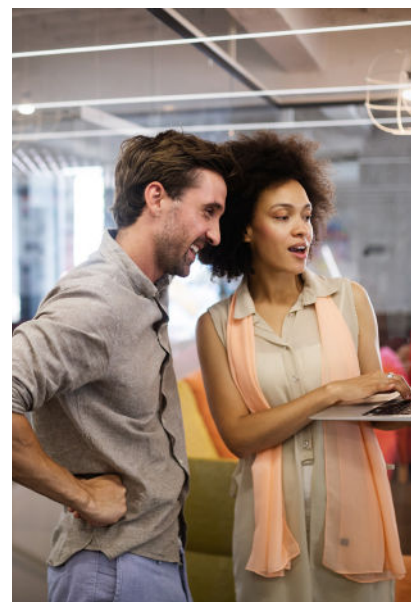
- Construction: Carpentry, Cabinetry, & Flooring (95%)
- Transportation: Heavy Equipment Operations (89%)
- Merchandising: Stocking & Material Handling (66%)
- Warehousing: Material Handling & Backroom Operations (66%)

The median salaries of the roles are around \$30,000, with the exception of Construction: Carpentry, Cabinetry, & Flooring (\$39,520). Jobs in the four roles are projected to increase in the next five years, but with such low salaries, there is an opportunity to transition male workers in these roles into ones with similar skills and education levels yet higher wages.

# Reskilling Opportunities

Each role is associated with a unique set of skills. The roles identified in the previous section have large talent surpluses and low salaries, considering the postings and profiles in the Tampa MSA. Nonetheless, workers in those roles have adjacent skills that they can leverage when transitioning into in-demand careers. However, that job transition may not be seamless, and workers will find it necessary to acquire and develop new skills. In this section, three reskilling opportunities are discussed, knowing that there are equity gaps in each of the roles. The reskilling opportunities are:

- **Retail: Point of Sales & Customer Service**  
(Black workers and female workers)
- **Maintenance: Housekeeping & Cleaning**  
(Hispanic workers and female workers)
- **Medical Support: Caregiving**  
(Black workers, Hispanic workers, and female workers)

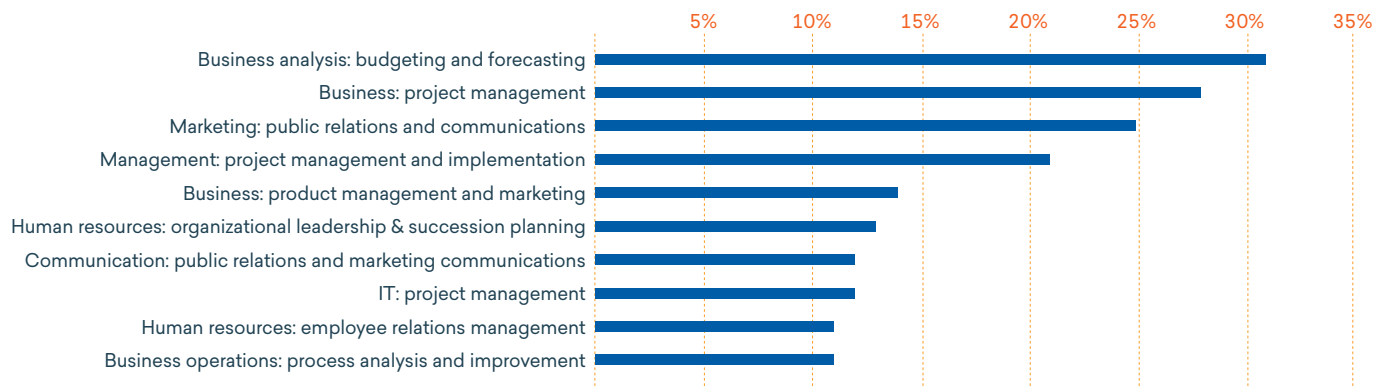


## TRANSITIONING RETAIL: POINT OF SALES & CUSTOMER SERVICE INTO BUSINESS ANALYTICS: BUDGET & FORECASTING

Figure 18 shows a specific example for the transition out of the Retail: Point of Sales & Customer Service role. Using the Emsi Profile Analytics database, results show that people in the U.S. leave the role for jobs in business analysis, project management, and marketing, which have higher salaries than jobs with the retail role. Business Analytics: Budget & Forecasting, the most frequent “next job” for people in the Retail: Point of Sales & Customer Service role, has a regional median salary greater than \$70,000, with a large regional employer demand. Furthermore, the roles presented in the figure are associated with the target career areas presented in a previous section.

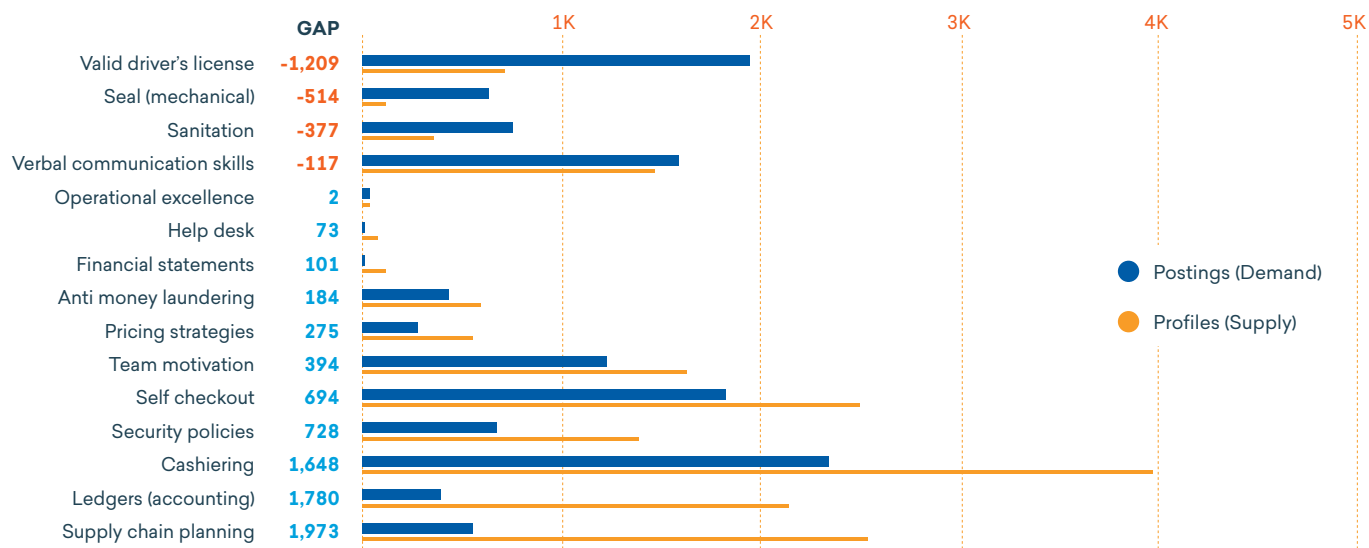
*How can workers transition from Retail: Point of Sales & Customer Service into Business Analytics: Budget & Forecasting?* Workers can leverage the skills they already have—ones in-demand in the new role—but they’ll also need to acquire a few more skills—skills employers are asking for in the new role. As shown in Figure 19, workers are good communicators, team motivators, and have some experience with financial statements and ledgers. In the new role, however, Tampa MSA employers are emphasizing budgeting and financial analysis skills (Figure 20), which workers in Retail: Point of Sales & Customer Service roles may need to further acquire and develop.

**FIGURE 18: MOST FREQUENT TRANSITIONS FOR THE RETAIL: POINT OF SALES & CUSTOMER SERVICE ROLE BASED ON NATIONAL EMSI PROFILE ANALYTICS (JANUARY 2019–DECEMBER 2020)**



Source: Emsi Skills.

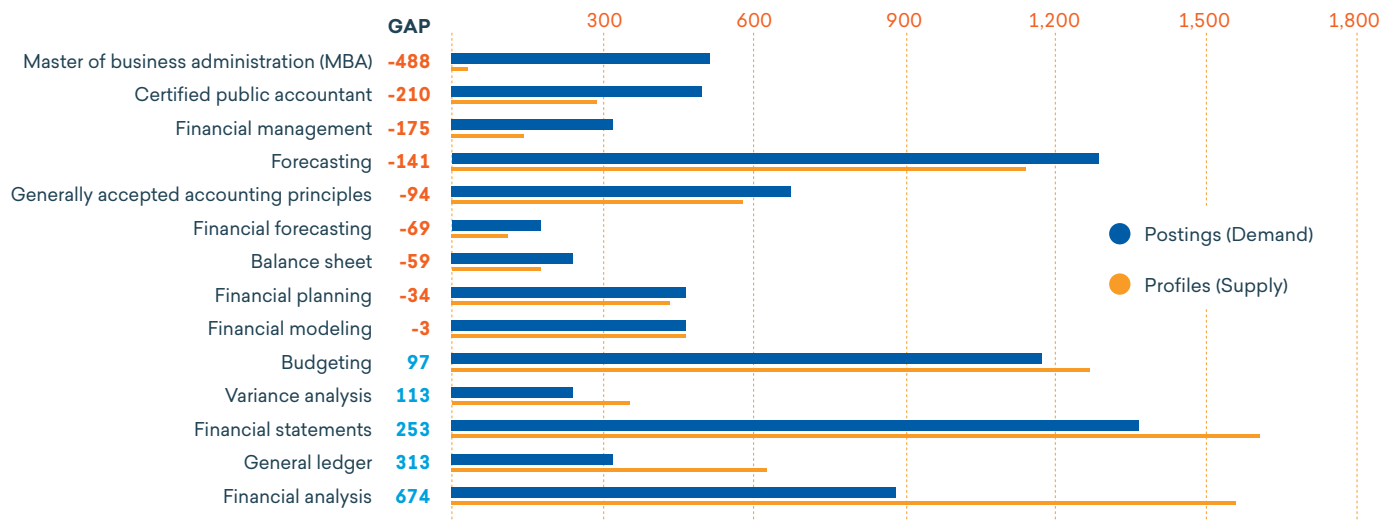
**FIGURE 19: TOP SKILLS OF WORKERS IN RETAIL: POINT OF SALES & CUSTOMER SERVICE TRANSITIONING INTO BUSINESS ANALYTICS: BUDGET & FORECASTING IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers, and a positive gap indicates a talent surplus among the region's workers.

Source: Emsi Skills.

**FIGURE 20: TOP SKILLS REQUIRED FOR WORKERS TRANSITIONING FROM RETAIL: POINT OF SALES & CUSTOMER SERVICE INTO BUSINESS ANALYTICS: BUDGET & FORECASTING IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers, and a positive gap indicates a talent surplus among the region's workers.

Source: Emsi Skills.

## HOW CAN WORKERS TRANSITION FROM RETAIL: POINT OF SALES & CUSTOMER SERVICE INTO BUSINESS ANALYTICS: BUDGET & FORECASTING?

### The two roles share these skills:

- Financial Statements
- Ledgers

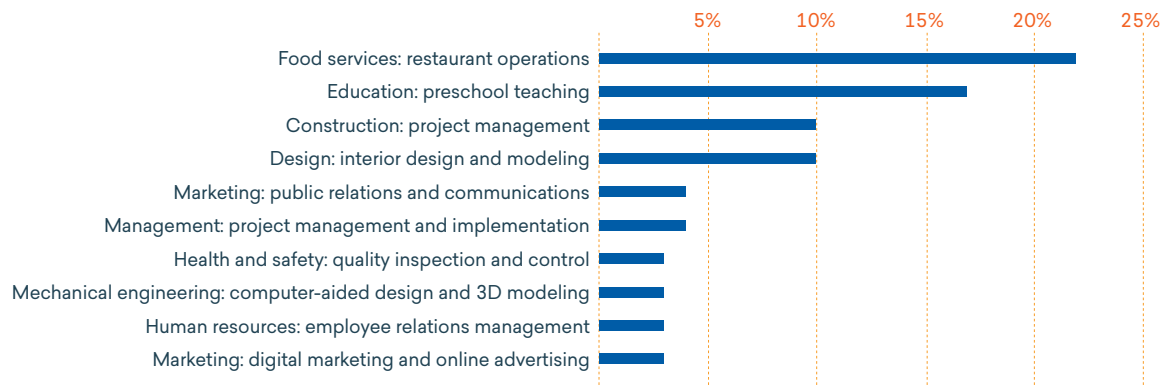
### These skills are needed in the new role:

- Financial Analysis
- Budgeting

## TRANSITIONING MAINTENANCE: HOUSEKEEPING & CLEANING INTO CONSTRUCTION: PROJECT MANAGEMENT

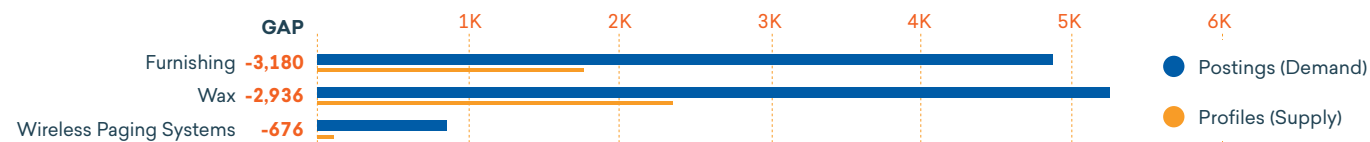
Figure 21 shows how workers nationwide transition out of the Maintenance: Housekeeping & Cleaning role. People left the role for a variety of jobs, mostly transitioning to Food Services: Restaurant Operations (22%) and Education: Preschool Teaching (17%), as well as Construction: Project Management (10%). The Food Services: Restaurant Operations role has a relatively small employer demand, and the Education: Preschool Teaching role has a low median salary. Thus, the transition into a Construction: Project Management role is discussed as a reskilling opportunity. As shown in Figure 22, workers have a specific skill set centered around cleaning. In the new role, Tampa MSA employers are emphasizing Subcontracting, Water Cooling, and Heavy Equipment skills (Figure 23). More applicable roles include Traffic Control, Sanitation, Safety Training.

**FIGURE 21: MOST FREQUENT TRANSITIONS FOR THE MAINTENANCE: HOUSEKEEPING & CLEANING ROLE BASED ON NATIONAL EMSI PROFILE ANALYTICS (JANUARY 2019–DECEMBER 2020)**



Source: Emsi Skills.

**FIGURE 22: TOP SKILLS OF WORKERS IN MAINTENANCE: HOUSEKEEPING & CLEANING TRANSITIONING INTO CONSTRUCTION: PROJECT MANAGEMENT IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers.

Source: Emsi Skills.

## HOW CAN WORKERS TRANSITION FROM MAINTENANCE: HOUSEKEEPING & CLEANING INTO CONSTRUCTION: PROJECT MANAGEMENT?

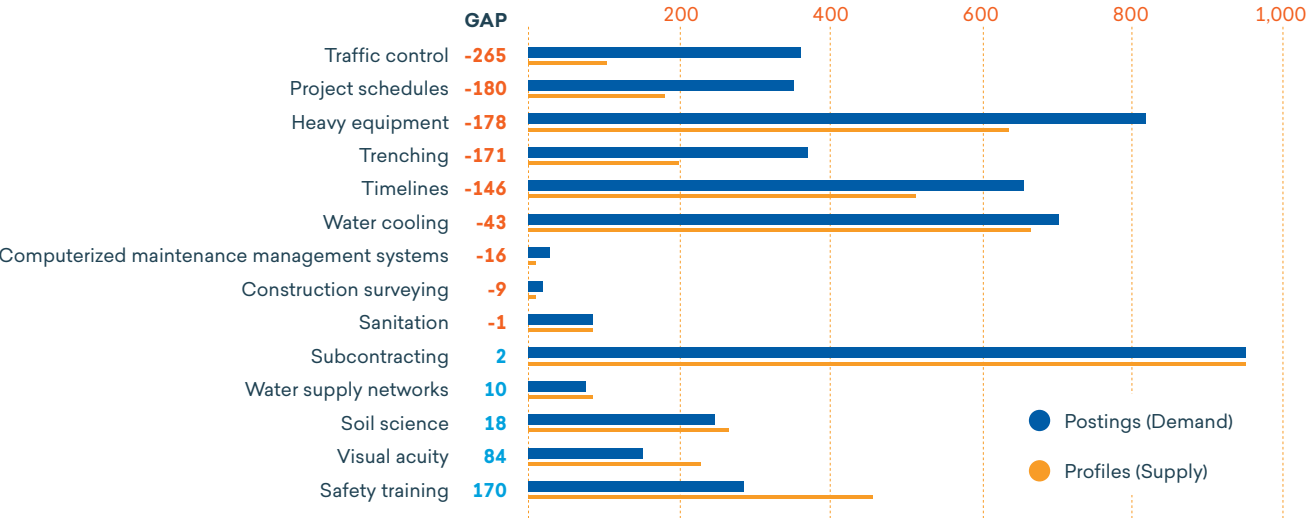
### The two roles share these skills:

- Cleaning or Sanitation
- Safety Training

### These skills are needed in the new role:

- Heavy Equipment
- Traffic Control

**FIGURE 23:** TOP SKILLS REQUIRED FOR WORKERS TRANSITIONING FROM MAINTENANCE: HOUSEKEEPING & CLEANING INTO CONSTRUCTION: PROJECT MANAGEMENT IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region’s workers, and a positive gap indicates a talent surplus among the region’s workers.

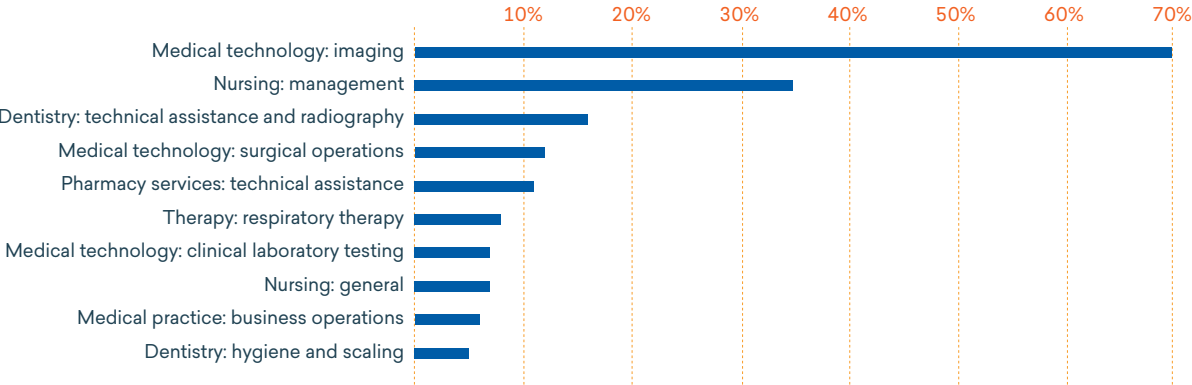
Source: Emsi Skills.

**TRANSITIONING MEDICAL SUPPORT: CAREGIVING INTO MEDICAL TECHNOLOGY: IMAGING**

Figure 24 shows the likely transitions out of the Medical Support: Caregiving role. Using the Emsi Profile Analytics database, 70% of the people in the U.S. have left the role for jobs in Medical Technology: Imaging, the most frequent “next job” for people in the role. The role has a small regional employer demand, but this section continues with the new role’s analysis, seeing that the transition frequency is so high.

As shown in Figure 25, workers have a set of skills centered around meal planning, skin care, doctor appointments, and prescriptions. In the new role, Tampa MSA employers emphasize Asepsis and Sterile Techniques (Figure 26), as well as interpersonal communication and attention to detail.

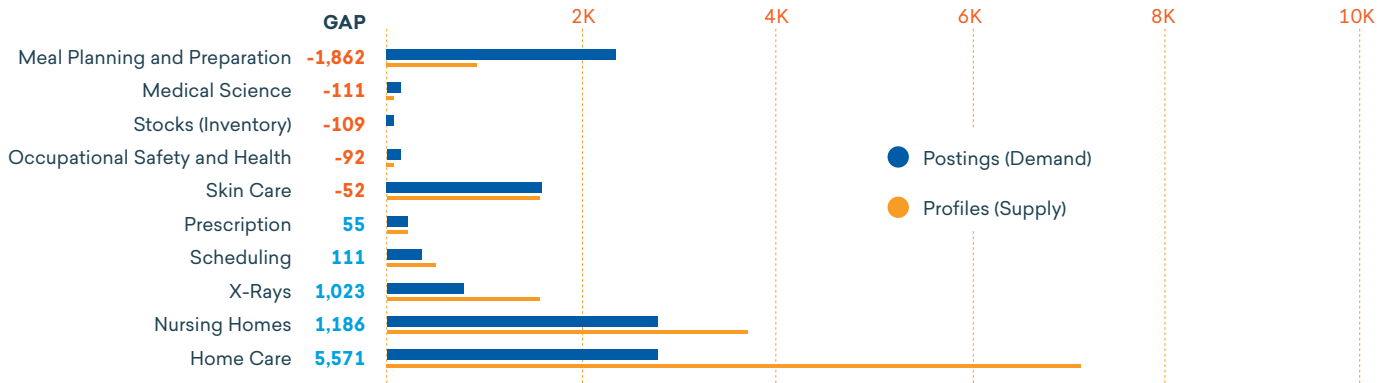
**FIGURE 24:** MOST FREQUENT TRANSITIONS FOR THE MEDICAL SUPPORT: CAREGIVING ROLE BASED ON NATIONAL EMSI PROFILE ANALYTICS (JANUARY 2019–DECEMBER 2020)



Source: Emsi Skills.



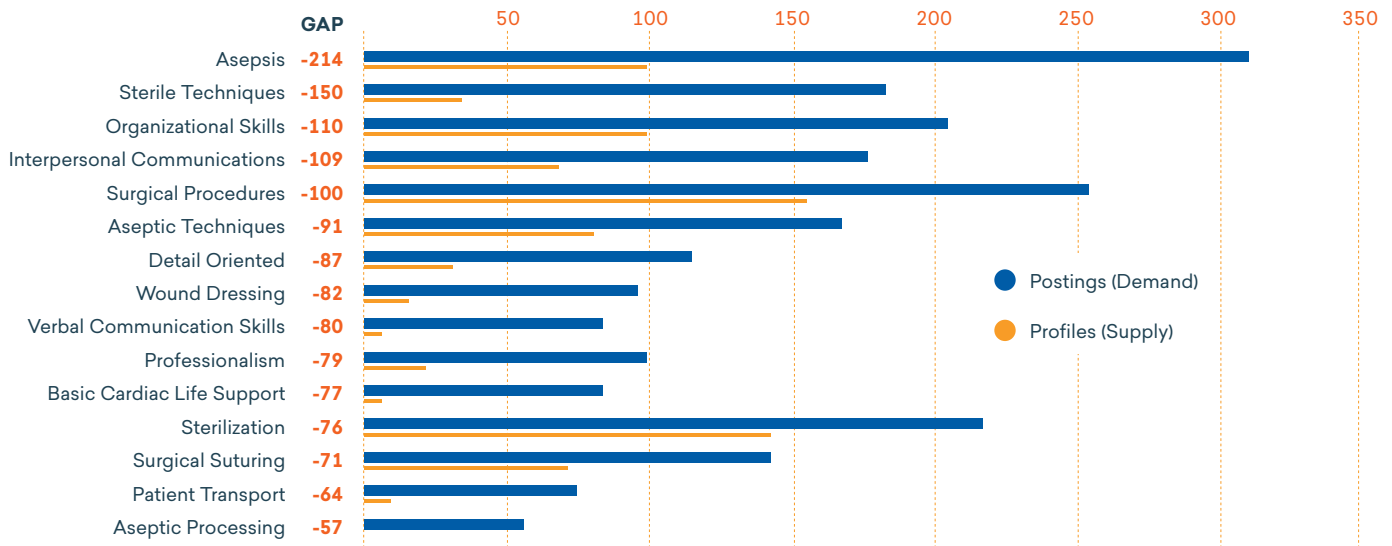
**FIGURE 25: TOP SKILLS OF WORKERS IN MEDICAL SUPPORT: CAREGIVING TRANSITIONING INTO MEDICAL TECHNOLOGY: IMAGING IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers, and a positive gap indicates a talent surplus among the region's workers.

Source: Emsi Skills.

**FIGURE 26: TOP SKILLS REQUIRED FOR WORKERS TRANSITIONING FROM MEDICAL SUPPORT: CAREGIVING INTO MEDICAL TECHNOLOGY: IMAGING IN THE TAMPA MSA (JANUARY 2019–DECEMBER 2020)**



Skill competencies are in ascending order of supply-demand gap. A negative gap indicates a talent shortage among the region's workers.

Source: Emsi Skills.

## HOW CAN WORKERS TRANSITION FROM MEDICAL SUPPORT: CAREGIVING INTO MEDICAL TECHNOLOGY: IMAGING?

### The two roles share these skills:

- Interpersonal Communication
- Attention to Detail
- Occupational Safety and Health

### These skills are needed in the new role:

- Surgical Procedures
- Sterilization

## Career Transition

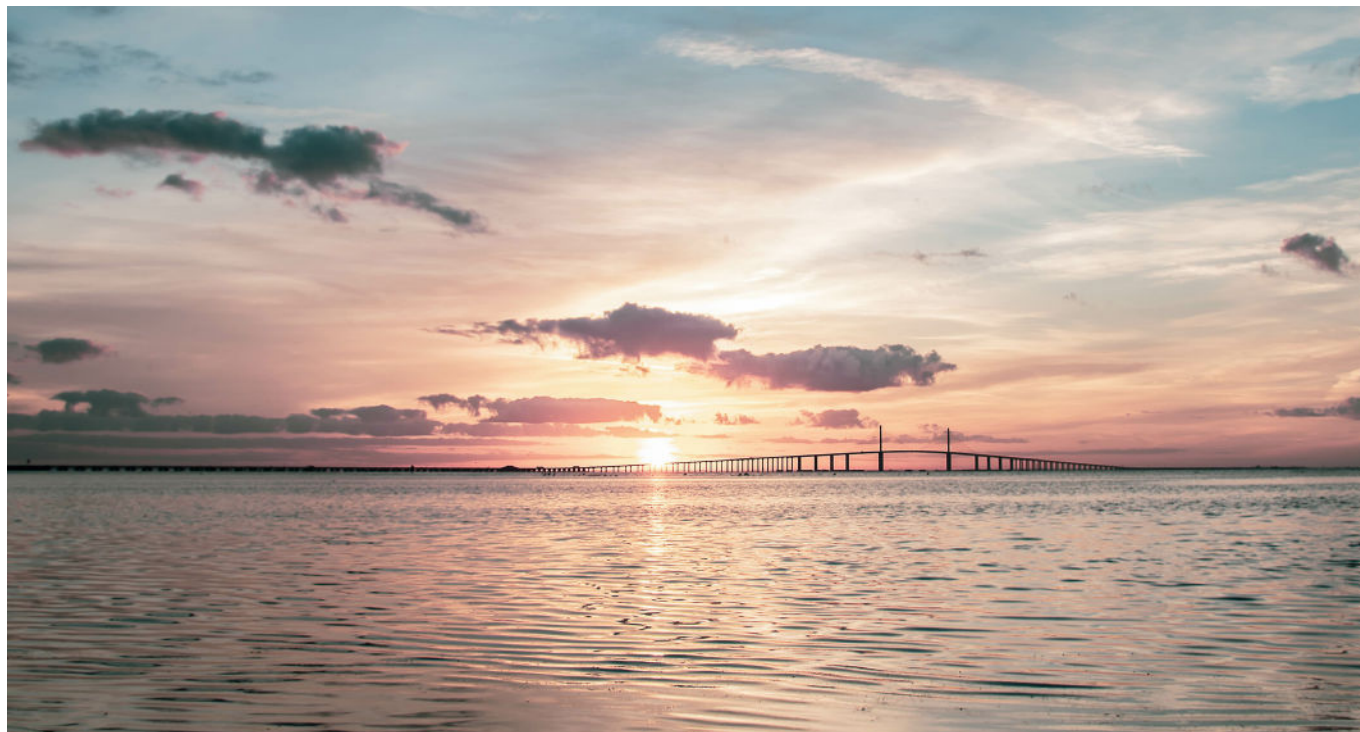
Table 3 sheds light on the numerous transition opportunities available from roles that have an oversupply of regional talent (left) into in-demand business and technology roles (right). Leveraging these transition opportunities in the Tampa MSA can help address equity gaps by moving individuals from low-paying, oversupplied jobs into in-demand, high-paying careers that provide economic prosperity among target populations.

**TABLE 3: TOP RESKILLING OPPORTUNITIES FOR ORIGIN ROLES WITH LOW MEDIAN ANNUAL SALARIES (2020)**

Origin Role	Median Annual Salary	Destination Role	Median Annual Salary
Medical support: caregiving	\$30,680	Nursing: management	\$88,800
Transportation: heavy equipment operations	\$31,200	Management: supply chain management	\$79,200
Retail: store management	\$33,620	Business analysis: budgeting and forecasting	\$75,400
Warehousing: logistics and warehousing management	\$35,360	Management: supply chain management	\$79,200
Sports and rec. Services: athletic training	\$36,310	Human resources: organizational leadership & succession planning	\$67,900
Retail: point of sales and customer service	\$36,871	Business analysis: budgeting and forecasting	\$75,400
Energy/utilities: sewage and wastewater treatment	\$36,976	Management: project management and implementation	\$78,300
Health and safety: quality inspection and control	\$37,440	Industrial engineering: quality engineering	\$72,100
Accounting: collections, accounts payable & receivable	\$38,277	Business analysis: budgeting and forecasting	\$75,400
Environmental sciences: forestry	\$39,916	Business: project management	\$72,700
Admin. Services: payroll, collections, and bookkeeping	\$41,600	Entertainment: journalism and broadcast production	\$59,300
Environmental sciences: OSHA & hazardous waste operations	\$41,600	Business analysis: budgeting and forecasting	\$75,400
Manufacturing: machining and CNC systems	\$41,600	Physical sciences: geology and geophysics	\$68,200
Transportation: independent freight operations	\$42,994	Mechanical engineering: computer-aided design & 3D modeling	\$76,900
Food services: restaurant management	\$44,500	Management: supply chain management	\$79,200
Construction: electrical systems	\$47,840	Marketing: public relations and communications	\$55,900
Human resources: benefits	\$50,799	Electrical engineering: controllers & human-computer interaction	\$75,400
		Business analysis: budgeting and forecasting	\$75,400

Source: Emsi Skills and BLS employment.

# Conclusion



The data contained in this report identifies the equity gaps that persist in the Tampa MSA, in-demand career areas, the skills demanded by employers, and transition opportunities that tackle equity issues.

Surging demand in high-paying careers has resulted in chronic talent shortages, particularly in career areas like Business & Finance, Healthcare, and IT & Math. Despite attempts to address these shortages, workers—particularly people of color—lack the necessary skills required to obtain employment in in-demand, high-salary careers. Consequently, the Tampa MSA's Black community, in particular, continues to find employment in low-wage careers with little opportunity for economic prosperity, like Hospitality, Recreation, & Personal Services. Creating a talent pipeline for in-demand career areas will alleviate talent gaps, which prevent local employers from growing their businesses.

By leveraging Emsi Skills data, Tampa MSA stakeholders can identify transition opportunities to move individuals from low-paying, oversupplied jobs to in-demand, high-paying careers. Many low-paying jobs have an overrepresentation of Black, Hispanic, female, and male workers. As evidenced by this report, these workers have skills in adjacent, higher paying, in-demand careers that will enable transitions via efficient education and training programs.

# Appendix

## Emsi's Detailed Skill Cluster Methodology

Emsi is a leader in advanced labor market analytics, including the development of skills data to better connect job seekers and employers. We provide our clients with the knowledge and tools needed to make strategic, data-driven decisions, increase the efficiency and effectiveness of their action plans, that ultimately result in wealth creation for their citizens.

For over 20 years, Emsi's economists and data scientists have been taking traditional labor market and industry data and making it understandable and actionable for clients. Emsi Skills represents the next evolution of analyzing labor market information, leveraging novel insights from online job postings and professional resumes.

## Skills Clustering and Quantifying Demand, Supply, and Gaps

Emsi aggregates the widely used federal statistical standard of 867 detailed occupations codified in the Standard Occupation Codes (SOCs), breaking those into a more manageable and user-centric group of career areas and career sub-areas.

Rather than looking at occupational titles (for example, "software engineer") Emsi analyzes the specific skills needed for a job (for example, "coding in Python"), giving a clearer picture of what a job applicant needs to get hired. Skills data in job postings are analyzed at the scale of career sub-areas for specific regions, using statistical methods that account for the relationships between skills in job postings. The result is sets of skill clusters for a given region and career sub-area, which reflect the kinds of roles that employers are posting for based on the skills they seek. Postings data is updated in real-time, but analysis of postings is completed over the most recent two years to account for seasonality. Skills clusters are updated approximately once every six months to reflect the introduction of new and emerging skills or the waning importance of skills as they are deprioritized in the labor market.

Skill demand, skill supply, and the difference between them—skill gaps—are all modeled estimates, based on job postings (market demand) and profiles (talent supply) that match to clusters, scaled according to BLS jobs data (numbers of actual jobs and annual openings).

Emsi matches job postings and professional profiles to regional clusters, based on alignment between the skills contained in each. The proportionate demand for skills is determined from matching postings to clusters, and proportionate supply of skills from matching profiles. The resultant relative distributions are the qualitative "skill shape" of supply and demand.

Emsi tags postings and profiles with occupations (SOC codes), which are rigorously tracked by the Bureau of Labor Statistics (BLS) to quantify numbers of existing new jobs by occupation. The qualitative demand estimates based on matched postings and profiles are therefore rescaled so that the SOC distributions reflect the actual distributions of SOC codes in the labor market according to BLS. Emsi matches postings and profiles to clusters to determine the shape of demand and supply, and then uses the more reliable and representative distribution of occupations from BLS data to rescale the shape to an estimate of actual demand and supply.

Some common skills (e.g. Communications) are excluded from the cluster analysis because they are so ubiquitous that they tend to dilute or confound the important relationships between other skills, while not adding very much of value in and of themselves.

**Please note that while the incorporation of traditional LMI—like employment data from the BLS—enhances Emsi Skills data, online profiles and job postings are inherently biased toward certain roles.** Consequently, the data presented in this report should not be directly compared to traditional LMI, such as employment data from the BLS. Employment data from the BLS aids Emsi Skills data in better reflecting a regional labor market, however, the supply of talent in Emsi Skills does not directly correlate to traditional employment data on a 1:1 scale. Ultimately, the skills data in the MSA demonstrate the region's evolution into a hub for in-demand career areas that require complex, highly technical skillsets. Emsi Skills work highlights these sought-after skills—the examples contained in this report were explicitly chosen based on the data to showcase opportunities for regional stakeholders to create efficient training pipelines and ensure equitable growth for all citizens in the region.





