

Detroit Region Aerotropolis Development Corporation (DRADC) Occupational Analysis Findings – Phase 2

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Occupational Analysis

The occupations below include the occupations analyzed in phase one, transportation, distribution, and logistics occupations, and trending occupations in the DRADC region, Washtenaw and Wayne Counties, based on the growth in employment. WIN analyzed data on the following occupations:

- Accountants and Auditors
- Cargo and Freight Agents
- Commercial and Industrial Designers
- Computer and Information Systems Managers
- Computer Systems Analysts
- Customer Service Representatives
- Electrical Engineers
- Financial Analysts and Advisors
- General and Operations Managers
- Heavy and Tractor-Trailer Truck Drivers
- Industrial Engineers
- Insurance Sales Agents
- Laborers and Freight, Stock, and Material Movers, Hand
- Logisticians
- Management Analysts
- Mechanical Engineers
- Network and Computer Systems Administrators
- Software Developers and Software Quality Assurance Analysts and Testers
- Transportation, Storage, and Distribution Managers
- Web Developers and Digital Interface Designers

Findings

The following sections highlight 2010-2021 employment, wage, location quotient, and supply and demand analyses for the occupations analyzed.

Employment

Employment for many of the occupations in the DRADC region has shown steady growth since 2010, despite the ongoing effects of the COVID-19 pandemic, most occupations have continued to gradually grow through 2021. Many information technology and advanced manufacturing occupations have seen a decrease in workers in 2021, however most of the occupations in these workforces are beginning to align to pre-pandemic levels. Commercial and Industrial Designers (31%), Network and Computer Systems Administrators (28%), and Industrial Engineers (1%) have all decreased in the past ten years. Transportation, distribution, and logistics occupations have seen the highest growth in the past ten years, doubling their workforce in 2021 from 2010.

Table 1. 2010-2021 Employment in Washtenaw and Wayne Counties

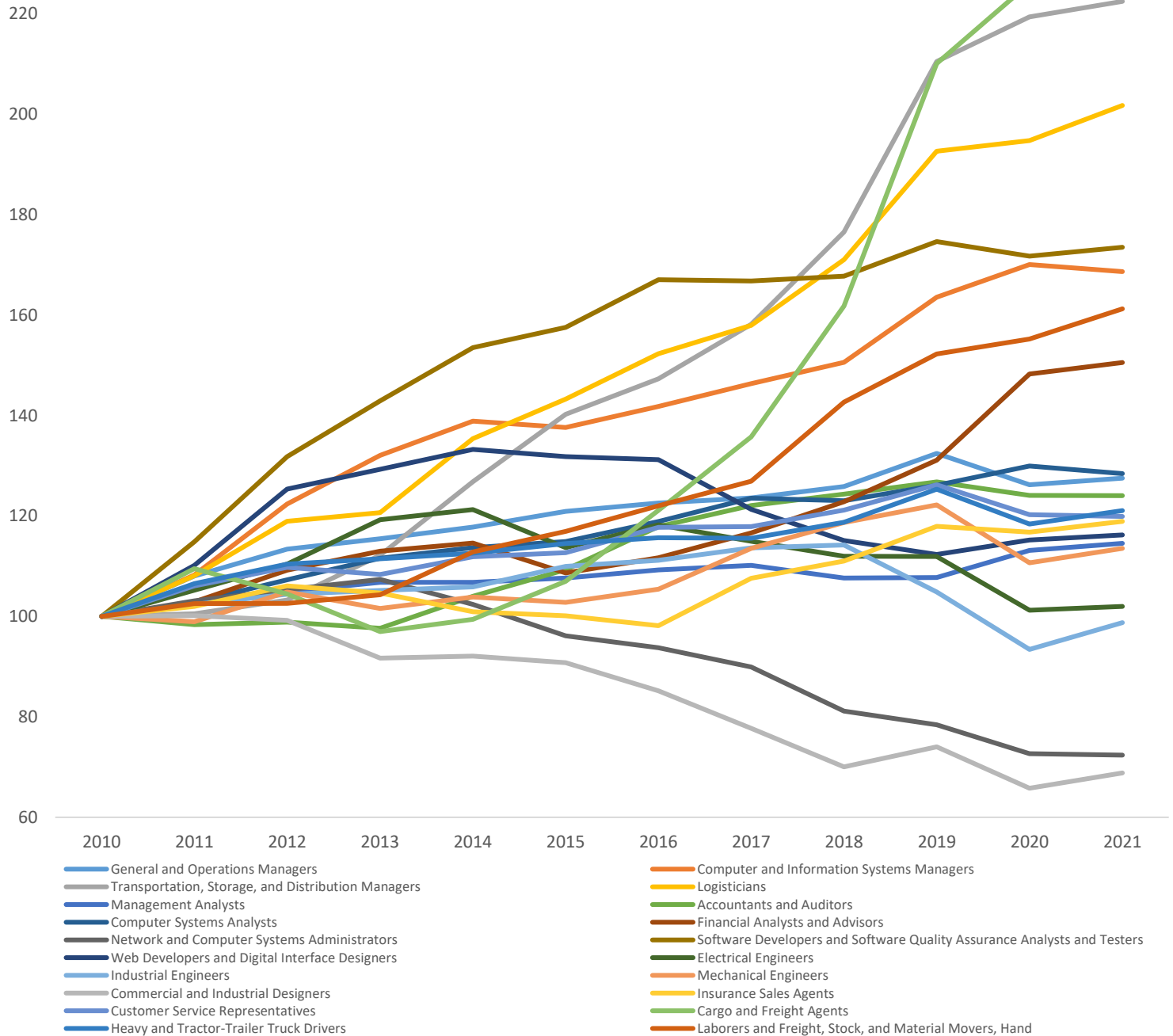
Description	2010 Jobs	2011 Jobs	2012 Jobs	2013 Jobs	2014 Jobs	2015 Jobs	2016 Jobs	2017 Jobs	2018 Jobs	2019 Jobs	2020 Jobs	2021 Jobs	2010 - 2021 % Change
General and Operations Managers	10,455	11,295	11,853	12,072	12,312	12,643	12,817	12,922	13,157	13,848	13,194	13,331	28%
Computer and Information Systems Managers	1,862	2,016	2,279	2,460	2,586	2,563	2,641	2,725	2,804	3,046	3,167	3,140	69%
Transportation, Storage, and Distribution Managers	483	485	498	542	612	677	711	763	852	1,016	1,059	1,074	122%
Logisticians	1,242	1,343	1,478	1,499	1,682	1,780	1,892	1,963	2,124	2,393	2,420	2,506	102%
Management Analysts	4,316	4,420	4,528	4,609	4,610	4,646	4,716	4,756	4,646	4,651	4,883	4,944	15%
Accountants and Auditors	7,203	7,083	7,120	7,033	7,491	7,872	8,491	8,793	8,958	9,132	8,937	8,933	24%
Computer Systems Analysts	3,670	3,775	3,937	4,095	4,173	4,216	4,364	4,533	4,515	4,628	4,769	4,712	28%
Financial Analysts and Advisors	1,325	1,363	1,447	1,497	1,518	1,440	1,480	1,545	1,627	1,737	1,965	1,995	51%
Network and Computer Systems Administrators	2,222	2,291	2,340	2,386	2,275	2,136	2,083	1,998	1,802	1,743	1,614	1,608	(28%)
Software Developers and Software Quality Assurance Analysts and Testers	6,180	7,098	8,146	8,832	9,486	9,738	10,325	10,306	10,366	10,793	10,613	10,722	73%
Web Developers and Digital Interface Designers	686	756	860	887	914	904	900	832	790	771	790	797	16%
Electrical Engineers	1,802	1,896	1,989	2,149	2,185	2,049	2,130	2,071	2,018	2,017	1,824	1,837	2%
Industrial Engineers	6,833	6,995	7,136	7,187	7,234	7,512	7,598	7,768	7,805	7,166	6,384	6,748	(1%)
Mechanical Engineers	9,794	9,690	10,273	9,952	10,172	10,069	10,325	11,120	11,623	11,968	10,837	11,123	14%
Commercial and Industrial Designers	1,413	1,415	1,402	1,295	1,302	1,283	1,204	1,098	990	1,046	930	973	(31%)
Insurance Sales Agents	1,813	1,849	1,923	1,897	1,829	1,815	1,779	1,950	2,012	2,138	2,116	2,156	19%
Customer Service Representatives	15,164	16,084	16,644	16,434	16,964	17,091	17,853	17,875	18,377	19,139	18,233	18,182	20%
Cargo and Freight Agents	729	798	762	707	725	780	883	990	1,179	1,532	1,648	1,649	126%
Heavy and Tractor-Trailer Truck Drivers	11,555	12,310	12,757	12,881	13,009	13,229	13,365	13,352	13,718	14,482	13,682	13,988	21%
Laborers and Freight, Stock, and Material Movers, Hand	11,250	11,537	11,543	11,735	12,697	13,154	13,730	14,281	16,049	17,130	17,465	18,141	61%

Data: EMSI | Analysis: Workforce Intelligence Network

The highest growing occupations in Washtenaw and Wayne counties are Cargo and Freight Agents (226.21%), Transportation, Storage, Distribution Managers (222.47%), and Logisticians (201.74%), all having grown almost double since 2010. Other occupations have steadily grown since 2010, with most experiencing a decrease in their workforce in

2020, however workers have slowly increased in these occupations in 2021.

Employment Growth - Washtenaw and Wayne Counties (Indexed growth, base year = 2010)



Data: EMSI | Analysis: Workforce Intelligence Network

Occupational Wages

Median wages in Washtenaw and Wayne County vary from \$14 per hour to \$68 per hour. Separately, about half of all occupations analyzed, Washtenaw County offers higher wages than Wayne County, on average. Computer Systems Analysts, Electrical Engineers, and Computer and Information Systems Managers offer higher median wages in Wayne County, a difference from \$4-\$9 per hour. Transportation, Storage, and Distribution Managers and Insurance Sales

Agents off higher wages in Washtenaw County, with the difference from Wayne County varying by \$4-\$8 per hour. With additional training and experience, wages increase significantly.

- Entry-level occupations with median wages above \$17.00 per hour in the DRADC region.
 - Insurance Sales Agents
 - Cargo and Freight Agents
 - Customer Service Representatives
- Occupations with substantially higher median wages above \$47.00 per hour in the DRADC region, corresponding with higher education levels and work experience.
 - Computer and Information Systems Managers
 - General and Operations Managers
 - Transportation, Storage, and Distribution Managers

Most of the workforce in the DRADC region is primarily white, accounting for 68.9% followed by Black or African American workers with 17.8%, and Hispanic and Latino workers with 4.1% in the region. Over half of workers employed are males, making up 68.8% of the workforce. The region has a high retirement population of 22.1%, indicating a potential talent shortage as most of the occupations require a bachelor’s degree and only 8.4% of the workforce are between the ages of 14-24. Most of the workforce in the DRADC region are between the ages of 25-54.

Table 2. Hourly Earnings in Washtenaw and Wayne, 2021

Occupation	10 th Percentile Hourly Earnings	25 th Percentile Hourly Earnings	Median Hourly Earnings	75 th Percentile Hourly Earnings	90 th Percentile Hourly Earnings
General and Operations Managers	\$22.14	\$33.75	\$54.99	\$85.69	\$118.35
Computer and Information Systems Managers	\$43.56	\$54.50	\$67.97	\$82.85	\$100.58
Transportation, Storage, and Distribution Managers	\$28.92	\$37.15	\$47.51	\$61.29	\$74.93
Logisticians	\$24.78	\$31.50	\$42.59	\$52.40	\$61.39
Management Analysts	\$24.37	\$32.42	\$42.69	\$55.81	\$77.71
Accountants and Auditors	\$23.53	\$29.02	\$37.11	\$48.54	\$64.27
Computer Systems Analysts	\$30.43	\$36.95	\$46.45	\$57.82	\$70.86
Financial Analysts and Advisors	\$21.36	\$27.07	\$38.21	\$57.25	\$95.76
Network and Computer Systems Administrators	\$27.11	\$33.12	\$40.56	\$49.64	\$58.86
Software Developers and Software Quality Assurance Analysts and Testers	\$28.90	\$36.77	\$46.72	\$58.17	\$67.97
Web Developers and Digital Interface Designers	\$11.08	\$18.92	\$31.67	\$42.53	\$52.86
Electrical Engineers	\$29.80	\$35.68	\$44.16	\$54.12	\$63.71
Industrial Engineers	\$31.48	\$37.45	\$46.06	\$55.62	\$63.12
Mechanical Engineers	\$31.16	\$36.27	\$45.03	\$56.18	\$65.37
Commercial and Industrial Designers	\$25.18	\$30.76	\$41.84	\$48.89	\$56.81
Insurance Sales Agents	\$14.35	\$16.97	\$23.50	\$37.88	\$62.50
Customer Service Representatives	\$11.75	\$13.88	\$17.72	\$23.82	\$31.97
Cargo and Freight Agents	\$12.75	\$15.16	\$19.94	\$24.24	\$31.89
Heavy and Tractor-Trailer Truck Drivers	\$13.30	\$16.67	\$21.67	\$26.43	\$32.06
Laborers and Freight, Stock, and Material Movers, Hand	\$10.59	\$12.27	\$14.42	\$17.98	\$22.13

Data: EMSI | Analysis: Workforce Intelligence Network

Table 3. Hourly Earnings Differential (Washtenaw County hourly wages less Wayne County hourly wages)

Occupation	10 th Percentile Hourly Earnings	25 th Percentile Hourly Earnings	Median Hourly Earnings	75 th Percentile Hourly Earnings	90 th Percentile Hourly Earnings
General and Operations Managers	\$1.88	\$1.35	\$3.35	\$4.49	\$4.78
Computer and Information Systems Managers	-\$5.42	-\$6.24	-\$8.54	-\$8.57	-\$8.81
Transportation, Storage, and Distribution Managers	\$5.45	\$7.16	\$7.18	\$6.91	\$6.14
Logisticians	\$0.67	-\$2.23	-\$1.16	-\$3.84	-\$3.52
Management Analysts	-\$4.31	-\$3.26	-\$1.57	\$0.52	\$14.28
Accountants and Auditors	-\$0.74	-\$1.64	-\$2.61	-\$5.22	-\$13.18
Computer Systems Analysts	-\$4.75	-\$5.71	-\$8.17	-\$12.47	-\$19.23
Financial Analysts and Advisors	-\$0.21	-\$0.76	-\$1.81	\$3.37	\$10.41
Network and Computer Systems Administrators	\$0.34	-\$2.54	-\$4.10	-\$5.87	-\$8.15
Software Developers and Software Quality Assurance Analysts and Testers	-\$1.16	-\$2.26	-\$3.42	-\$4.34	-\$4.52
Web Developers and Digital Interface Designers	\$1.14	-\$0.76	-\$0.34	-\$2.83	-\$3.21
Electrical Engineers	-\$3.90	-\$4.17	-\$4.71	-\$5.65	-\$3.33
Industrial Engineers	-\$2.96	-\$2.69	-\$2.73	-\$3.10	-\$1.90
Mechanical Engineers	-\$2.88	-\$0.97	\$2.28	\$3.81	\$4.64
Commercial and Industrial Designers	\$1.70	\$3.52	\$2.79	\$2.44	\$5.54
Insurance Sales Agents	\$1.73	\$3.83	\$4.66	\$3.64	\$1.44
Customer Service Representatives	-\$1.08	-\$1.35	-\$2.09	-\$1.81	-\$2.52
Cargo and Freight Agents	\$1.77	\$2.51	\$2.67	\$3.28	\$3.97
Heavy and Tractor-Trailer Truck Drivers	\$0.31	-\$0.10	-\$0.78	\$0.10	\$7.81
Laborers and Freight, Stock, and Material Movers, Hand	\$0.40	\$0.58	\$0.68	\$0.90	\$1.11

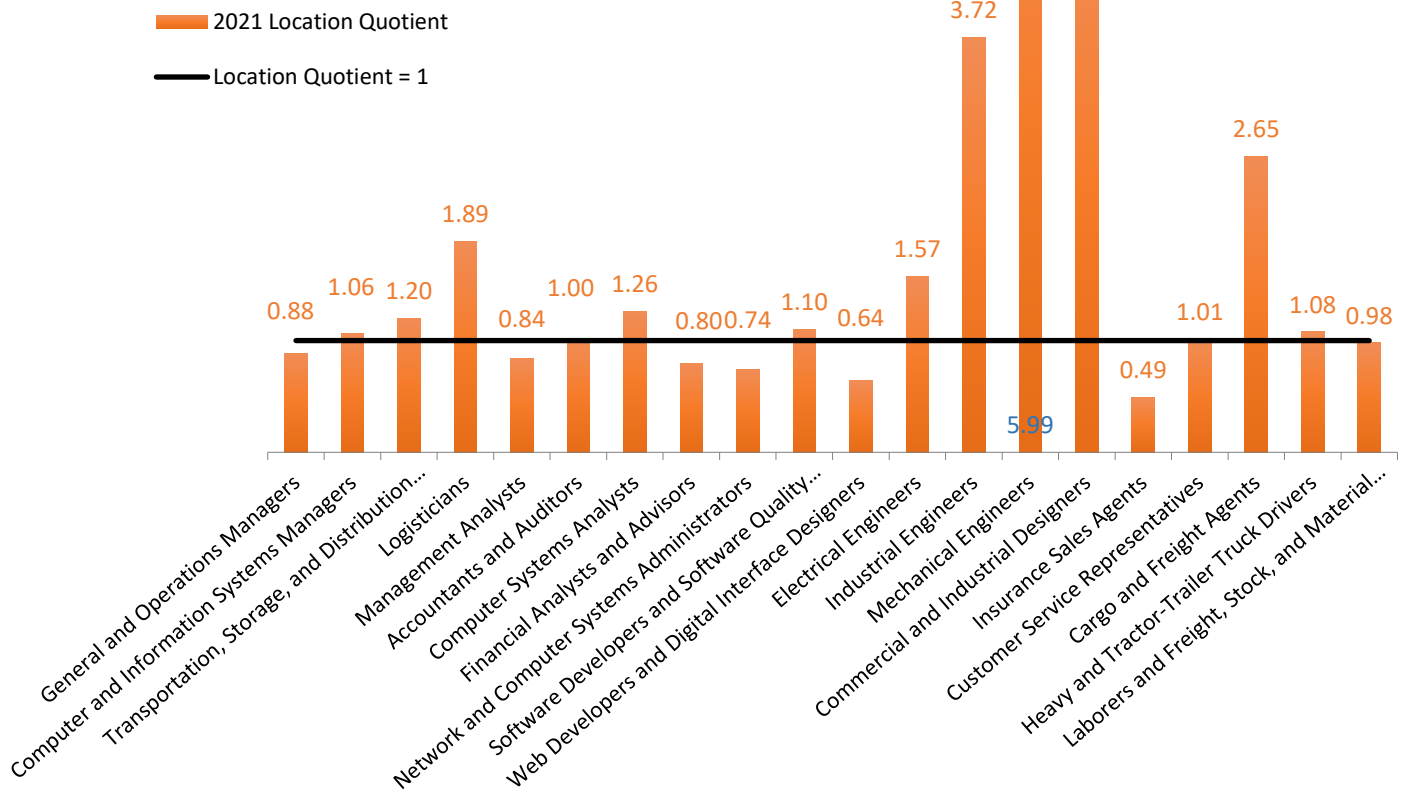
Data: EMSI | Analysis: Workforce Intelligence Network

Occupation Location Quotient

The occupations experiencing the highest growth in the concentration of workers since 2010 in the DRADC region are Cargo and Freight Agents, Computer Systems Analysts, and Transportation, Storage, and Distribution Managers. Mechanical engineers in 2021 had a location quotient (LQ) of 5.99, meaning that workers in this occupation are nearly 6 times more concentrated in this region than across the nation. Since 2010, Washtenaw and Wayne County seen a decrease in the concentration of workers in Web Developers and Digital Interface Designers, Network and Computer Systems Administrators, and Insurance Sales Agents.

- Based on the concentrations of workers in the DRADC region, industries prevalent in Washtenaw and Wayne counties are advanced manufacturing, transportation, distribution, and logistics, and information technology.
- Location quotients for the labor shed are higher than 0.49 for all occupations analyzed.

Location Quotient (2021)



Data: EMSI | Analysis: Workforce Intelligence Network

Supply-Demand

Demand for workers in these occupations have steadily grown since 2010, although in 2020 as a result from shutdown measures to slow the pandemic, there was a decrease in demand by 12.4% for workers since 2019. As recovery efforts for the economy and businesses in the DRADC region continue, demand for workers increased by 18.8% in 2021 since 2020, an addition of 28,502 jobs for the region. Overall, demand for these occupations has increased substantially since 2010, while there have been some fluctuations between the years, especially seen during 2020, demand has continued to recover through 2021.

Table 4. Job Postings from 2010 to 2021

SOC	Occupation	2010 Postings	2011 Postings	2012 Postings	2013 Postings	2014 Postings	2015 Postings	2016 Postings	2017 Postings	2018 Postings	2019 Postings	2020 Postings	2021 Postings
11-1021	General and Operations Managers	846	2,212	1,467	4,204	4,700	5,817	6,093	7,665	8,949	8,954	7,905	11,215
11-3021	Computer and Information Systems Managers	84	251	151	405	488	656	568	991	780	710	598	827
11-3071	Transportation, Storage, and Distribution Managers	205	445	384	1,050	1,181	1,620	1,219	1,586	2,087	2,022	1,703	2,453

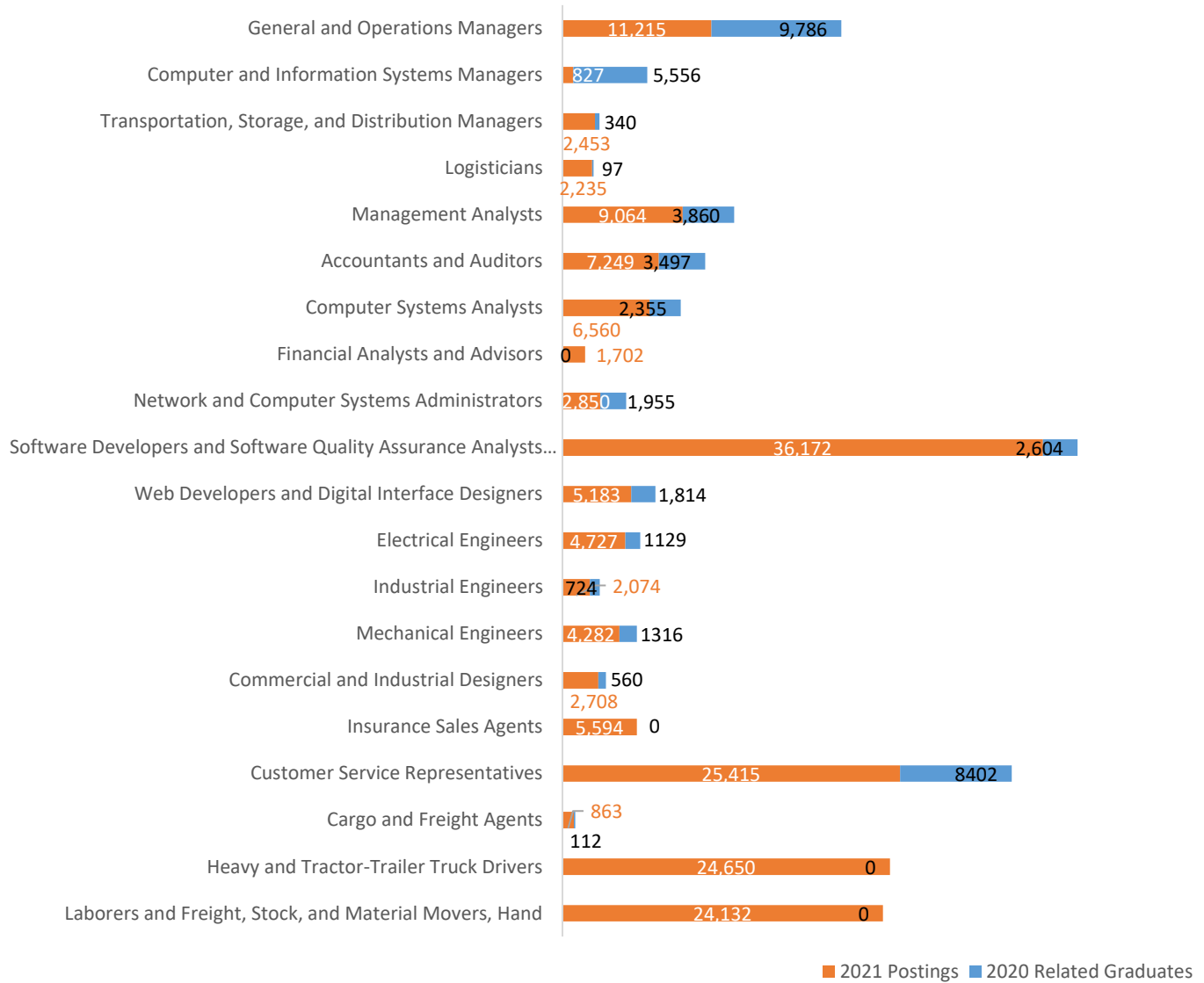
13-1081	Logisticians	195	576	351	987	1,229	1,283	1,377	1,803	1,928	1,544	1,065	2,235
13-1111	Management Analysts	1,339	3,068	2,367	7,490	7,979	11,900	9,986	11,385	11,588	10,023	6,869	9,064
13-2011	Accountants and Auditors	1,046	2,770	1,763	5,326	5,232	7,901	7,672	7,994	7,131	7,462	6,067	7,249
15-1211	Computer Systems Analysts	1,212	2,983	1,985	5,445	5,804	8,317	7,200	7,505	8,205	7,111	5,733	6,560
13-2050	Financial Analysts and Advisors	376	736	684	1,625	1,281	1,973	2,015	2,102	1,913	2,160	1,804	1,702
15-1244	Network and Computer Systems Administrators	550	1,604	1,195	3,032	2,720	3,284	3,022	3,414	4,084	3,234	2,269	2,850
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	5,263	12,492	9,111	22,557	21,426	33,397	33,623	36,920	42,575	38,610	33,379	36,172
15-1257	Web Developers and Digital Interface Designers	1,009	2,140	1,698	4,806	3,864	6,034	5,061	5,270	6,615	5,230	3,985	5,183
17-2071	Electrical Engineers	812	2,382	1,908	4,639	4,642	7,254	7,485	6,661	6,400	5,487	3,971	4,727
17-2112	Industrial Engineers	307	1,186	924	2,015	2,100	2,926	2,484	2,602	2,404	1,913	1,360	2,074
17-2141	Mechanical Engineers	1,230	3,227	2,655	6,139	5,829	9,294	8,103	7,173	5,623	5,473	3,087	4,282
27-1021	Commercial and Industrial Designers	625	2,255	2,107	4,249	3,833	5,910	5,367	4,308	2,570	4,246	2,561	2,708
41-3021	Insurance Sales Agents	446	1,217	812	1,628	1,857	2,519	2,791	3,969	4,169	6,040	7,376	5,594
43-4051	Customer Service Representatives	2,024	4,505	3,704	11,608	12,398	17,062	18,374	21,052	23,157	23,966	20,413	25,415
43-5011	Cargo and Freight Agents	86	115	131	419	348	473	309	820	839	851	897	863
53-3032	Heavy and Tractor-Trailer Truck Drivers	2,104	4,526	3,663	11,303	17,617	26,491	26,606	47,937	40,742	26,665	21,178	24,650
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	700	1,664	1,246	3,539	4,758	5,681	6,383	7,110	11,403	11,229	19,233	24,132

Data: EMSI | Analysis: Workforce Intelligence Network

The regional completions for some occupations indicate a potential shortage of workers in the DRADC region, although entry for three occupations only require a certification or apprenticeship. Logisticians, Financial Analysts and Advisors, and Cargo and Freight all indicate a gap in the number of graduates in related programs compared to employer demand for workers, however Cargo and Freight Agents only require a high school diploma for entry, coupled with short-term on-the-job training.

- Occupations requiring no formal education for entry and training:
 - Laborers and Freight, Stock, and Material Movers, Hand
- Occupations requiring only a certificate and training for entry:
 - Heavy and Tractor-Trailer Truck Drivers
- Occupations requiring a high school diploma and short to moderate-term training:
 - Insurance Sales Agents
 - Customer Service Representatives
 - Cargo and Freight Agents

Washtenaw-Wayne Occupational Supply-Demand



Data: EMSI

Analysis: Workforce Intelligence Network