

Detroit Region Aerotropolis Development Corporation (DRADC) Analysis Findings – Phase 1

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Introduction

For clarification purposes, the DRADC local, labor shed, and overall regions are defined below. All references made throughout the report will refer to these regions.

DRADC Region

- Washtenaw County
- Wayne County

DRADC Local Region

- 48111-Belleville
- 48112-Belleville
- 48134- Flat Rock
- 48164-New Boston
- 48174-Romulus
- 48184-Wayne
- 48180-Taylor
- 48197-Ypsilanti
- 48198-Ypsilanti
- 48242-Detroit

DRADC Labor Shed Region

- Genesee County
- Ingham County
- Jackson County
- Lenawee County
- Livingston County
- Macomb County
- Monroe County
- Oakland County
- St. Clair County
- Washtenaw County
- Wayne County
- Lucas County, OH

Local Region Commuting Patterns

All data in this section is from the U.S. Census, OnTheMap

The DRADC local region is a commuter region with 79.9% of its employed residents commuting out of the region for work and 76.8% of those with jobs in the local region commuting in from other areas. More individuals commute out than commute in, making the DRADC local region a donor region for workers to surrounding communities.

Inflow/Outflow Counts of Primary Jobs for Selection Area in 2019

All Workers



Map Legend

Selection Areas

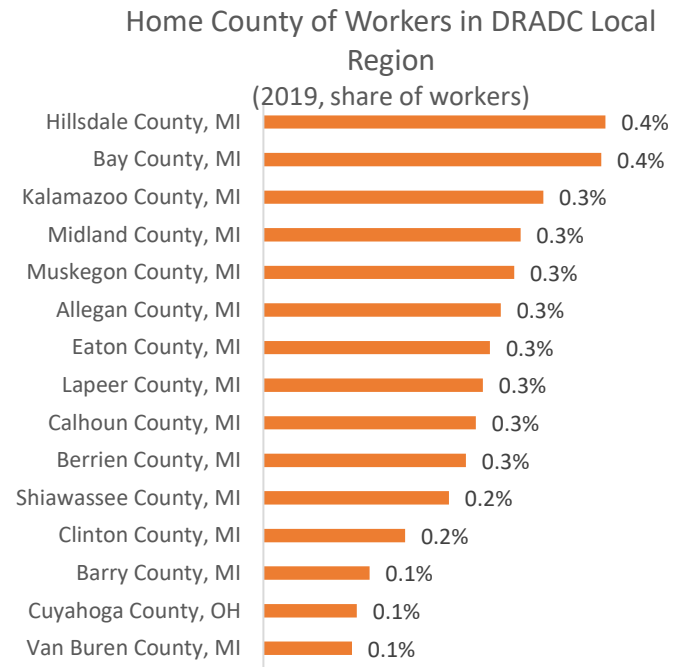
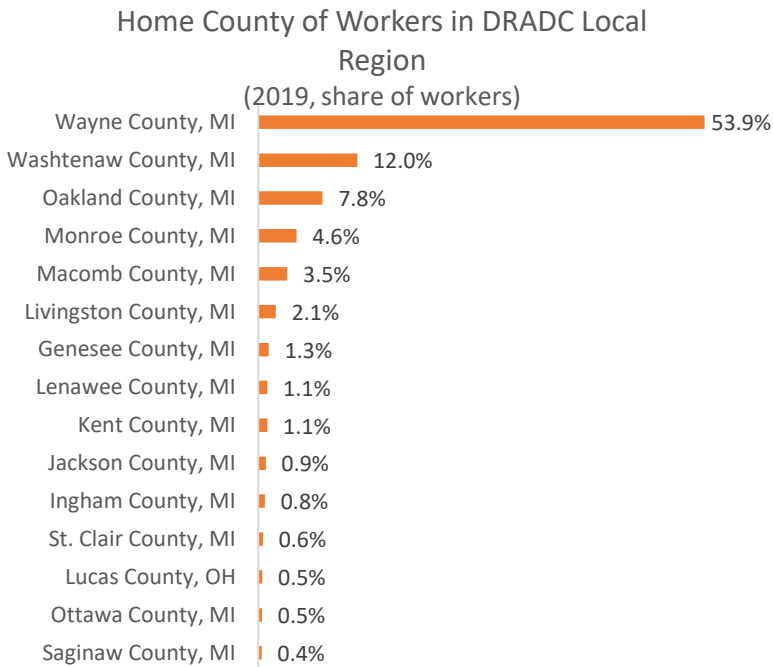
Analysis Selection

Inflow/Outflow

- ◆ Employed and Live in Selection Area
- ◆ Employed in Selection Area, Live Outside
- ◆ Live in Selection Area, Employed Outside
- Note: Overlay arrows do not indicate directionality of worker flow between home and employment locations.

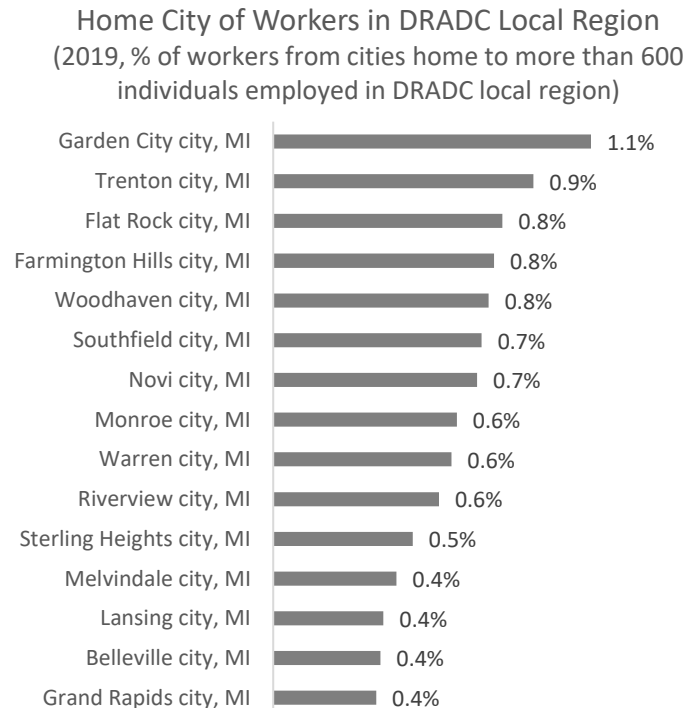
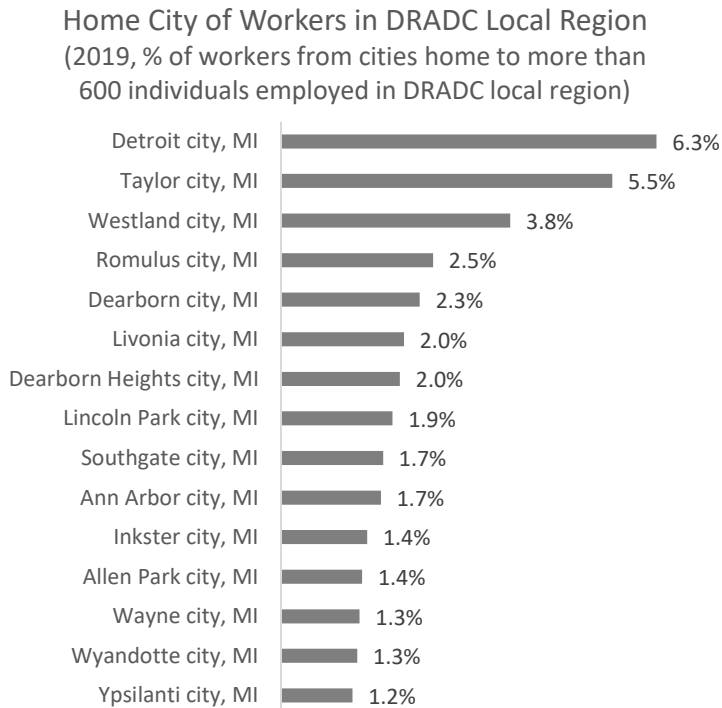


The two counties in the DRADC region, Washtenaw and Wayne, are home to over 65% of the DRADC local region's workforce. The commuter counties for the local region include:



Data: OnTheMap | Analysis: Workforce Intelligence Network

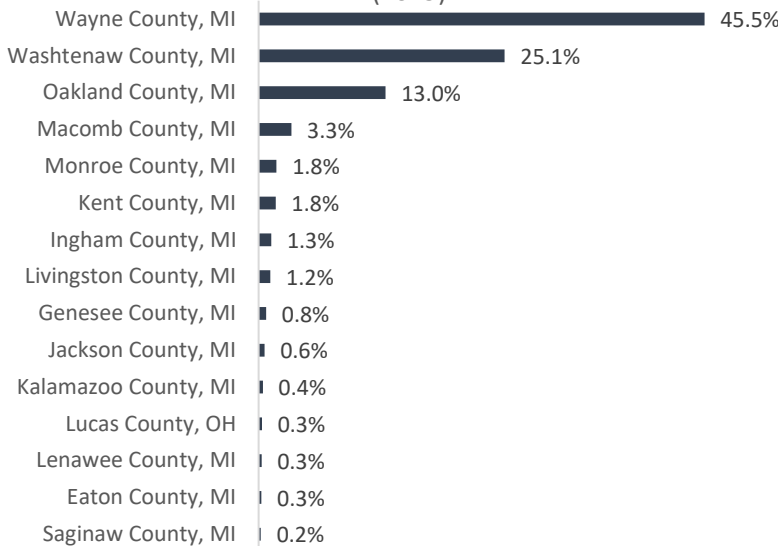
While 65% of the local region's workers live in one of the two DRADC region counties, workers come from a diverse array of cities. Cities home to more than 600 individuals working in the DRADC local region include:



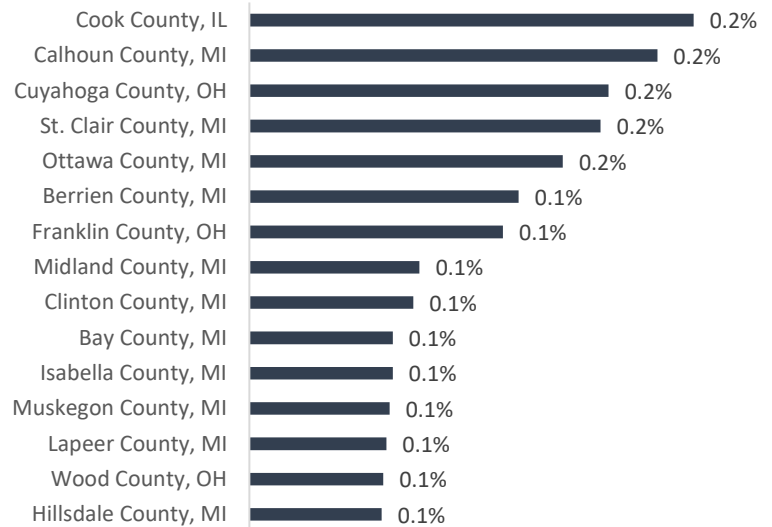
Data: OnTheMap | Analysis: Workforce Intelligence Network

71% of employed residents in the DRADC local region hold jobs in either Wayne or Washtenaw County. For those that commute, other counties employing residents of the DRADC local region include:

Work County of Residents in DRADC Local Region
(2019)



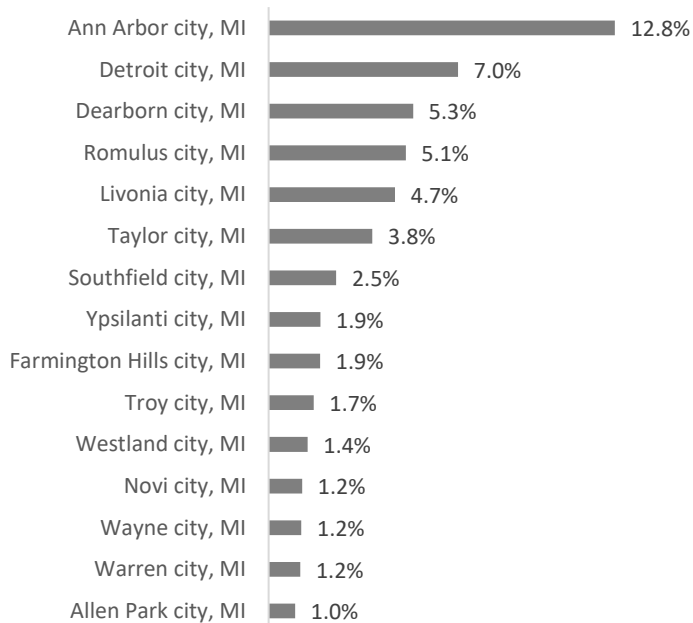
Work County of Residents in DRADC Local Region
(2019)



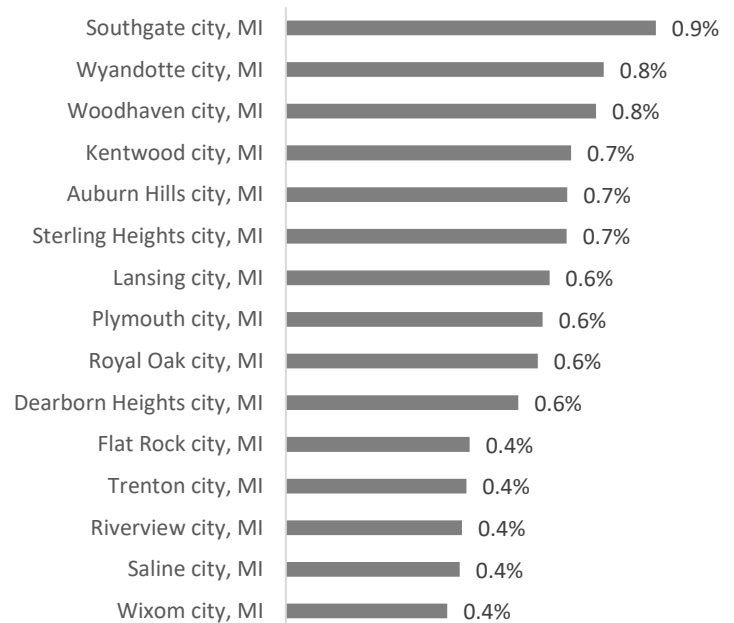
Data: OnTheMap | Analysis: Workforce Intelligence Network

Similar to worker inflow, workers commute to a diverse array of cities both within the DRADC region and outside. Cities with more than 600 DRADC local region residents employed include:

Work City of Residents in DRADC Local Region
(2019, % of workers commuting to cities with more than 600 individuals from DRADC local region)



Work City of Residents in DRADC Local Region
(2019, % of workers commuting to cities with more than 600 individuals from DRADC local region)

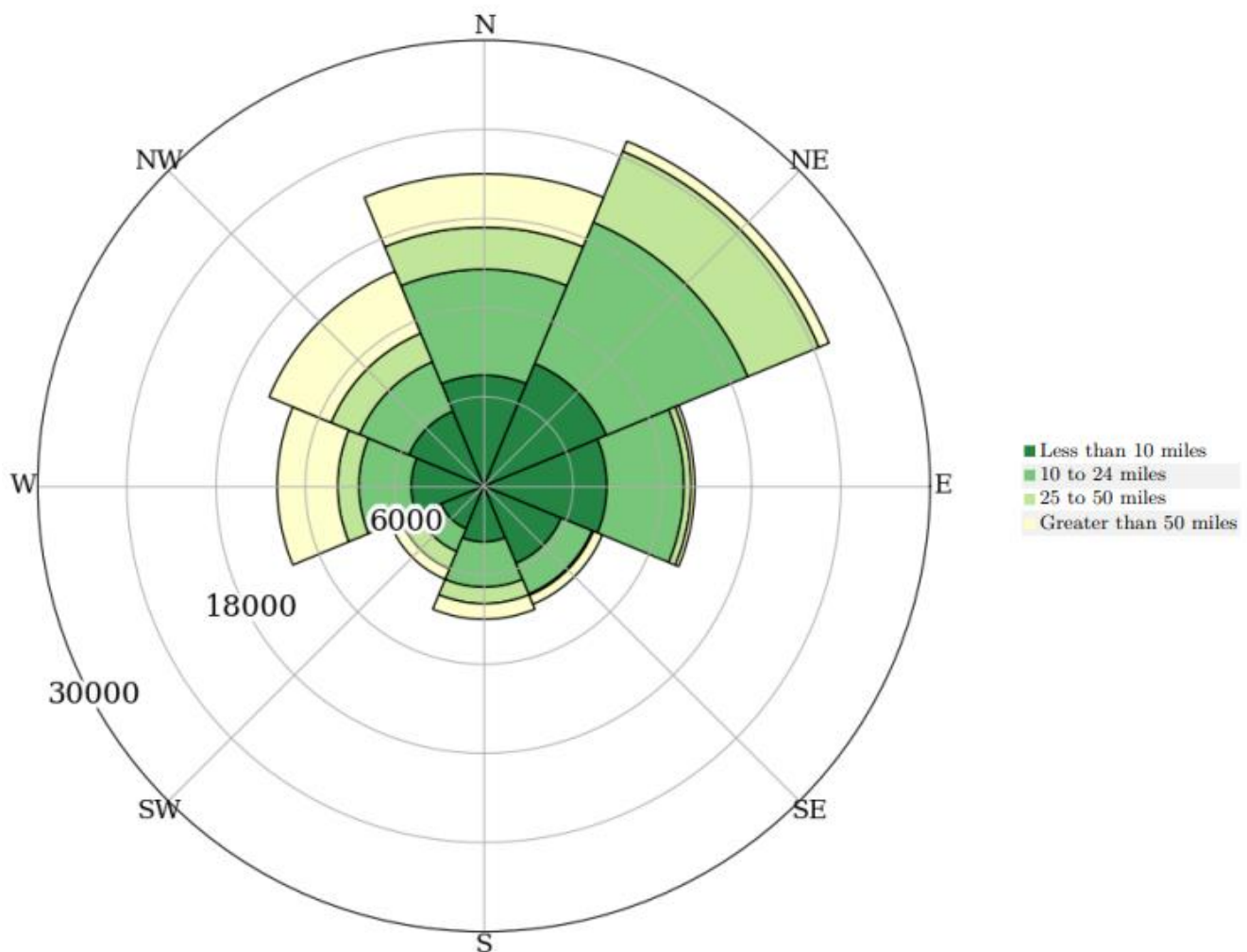


Data: OnTheMap | Analysis: Workforce Intelligence Network

Workers in the DRADC local region travel long distances for work. More than a quarter (26.7%) of those employed in the DRADC local region travel 25 miles or more from their home to work. Of those, 13.7% travel more than 50 miles. Most workers travel northeast, east, and northwest of the DRADC local region to reach their home. The typical commute in the DRADC local region is slightly longer than the average commute in Michigan. In the State of Michigan, almost the same share of workers travel 50 miles or more for work, 13.4% in Michigan compared to 13.7% in the DRADC local region. However, a greater share of workers in the local region travels between 10 and 24 miles, 32.1% in the local region compared to 30.7% in the state. Workers traveling less than 10 miles for work have the highest share of commuters, 41.6% in the local region compared to 43.5% in the state, on average.

Primary Jobs for All Workers in 2019

Distance and Direction from Work Census Block to Home Census Block, Employed in Selection Area



Occupational Analysis

Detroit Region Aerotropolis Development Corporation is interested in understanding employment and workforce dynamics in industries related to advancements in engineering, mobility, and customer support sectors. This analysis is necessary to grow a diverse and equitable region. The following highlights 2010-2021 employment, location quotient, and wage analysis findings for the occupations below. WIN analyzed data on the following occupations:

- Accountants and Auditors
- Computer and Information Systems Managers
- Computer Systems Analysts
- Customer Service Representatives
- Financial Analysts and Advisors
- Industrial Engineers
- Insurance Sales Agents
- Management Analysts
- Network and Computer Systems Administrators
- Software Developers and Software Quality Assurance Analysts and Testers

Employment

Employment for many of the occupations in both the local region and labor shed region has shown steady growth since 2010, still recovering from the effects of the recession in 2008-2009. Despite the ongoing effects of the COVID-19 pandemic, occupations have continued to gradually grow through 2021, however the rate of growth is slower than previous years. Network and Computer Systems Administrators saw the highest decline in both regions, decreasing by 25-28% since 2010.

Table 1: 2010-2021 DRADC Local Region Employment (10 Zip Codes Region)

Occupation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2010 - 2021 Growth
Computer and Information Systems Managers	201	223	260	276	281	272	273	273	291	311	319	320	59%
Management Analysts	557	576	590	605	612	638	638	617	594	572	592	605	8%
Accountants and Auditors	691	691	699	689	722	762	818	830	856	869	847	857	24%
Financial Analysts and Advisors	81	72	69	73	72	74	73	75	79	78	86	88	8%
Computer Systems Analysts	358	390	415	429	444	432	445	450	462	481	505	501	40%
Network and Computer Systems Administrators	237	242	257	254	250	237	227	208	189	185	170	171	(28%)
Software Developers and Software Quality Assurance Analysts and Testers	637	728	842	873	937	966	1,003	951	980	1,056	1,019	1,034	62%
Industrial Engineers	1,092	1,143	1,139	1,156	1,139	1,124	1,138	1,135	1,220	1,167	1,020	1,071	(2%)
Insurance Sales Agents	87	85	93	91	88	98	90	97	102	105	101	103	19%
Customer Service Representatives	2,013	2,256	2,155	1,954	1,956	1,894	1,931	1,897	2,127	2,119	1,959	1,953	(3%)

Data: EMSI | Analysis: Workforce Intelligence Network

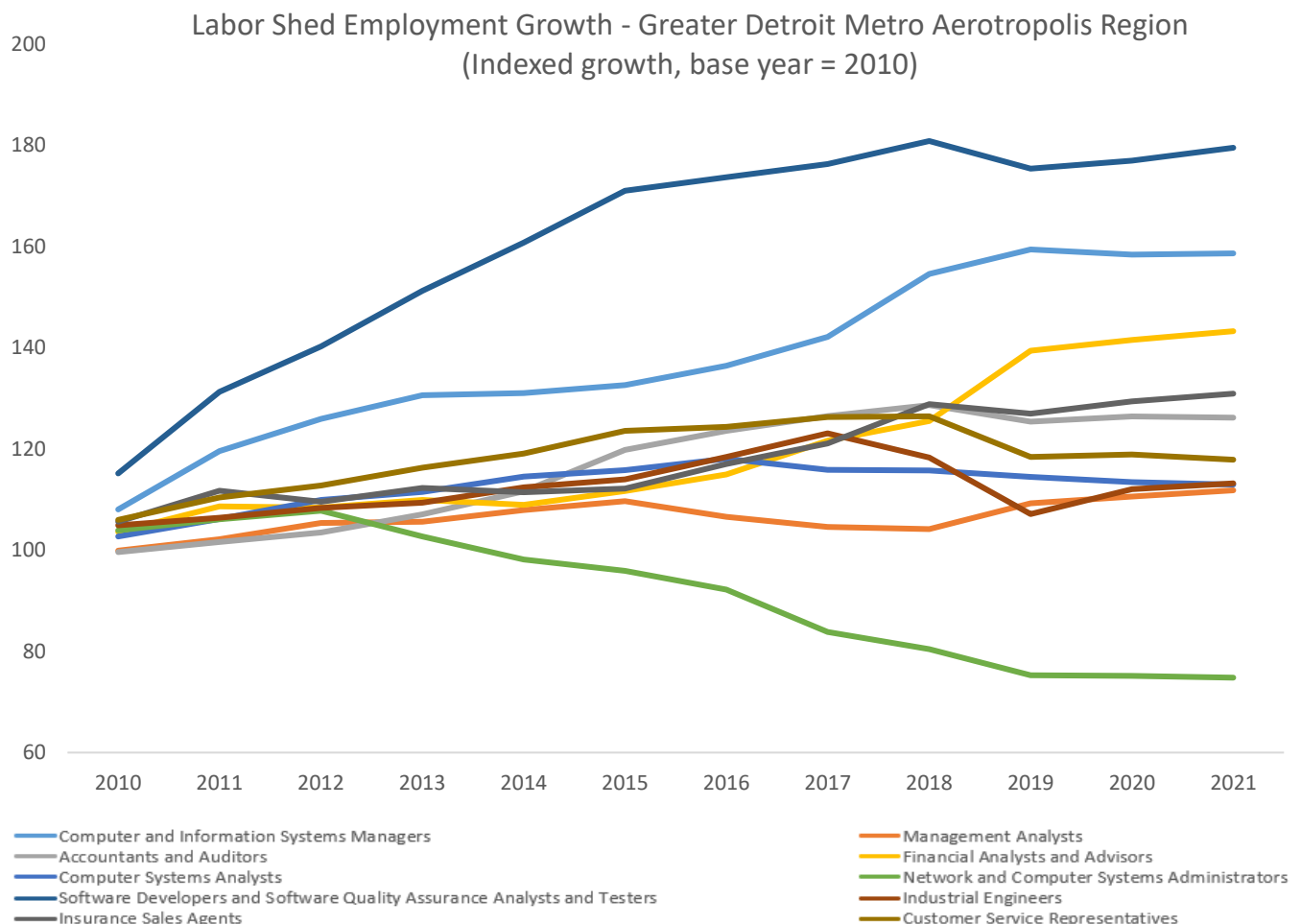
Table 2: 2010-2021 DRADC Labor Shed Region Employment (12 County Region)

Occupation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2010 - 2021 Growth
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Computer and Information Systems Managers	5,252	5,674	6,280	6,615	6,858	6,881	6,963	7,163	7,465	8,116	8,371	8,318	58%
Management Analysts	12,331	12,317	12,594	12,988	13,024	13,307	13,520	13,143	12,892	12,840	13,471	13,633	11%
Accountants and Auditors	20,951	20,866	21,279	21,682	22,425	23,379	25,093	25,887	26,490	26,949	26,259	26,480	26%
Financial Analysts and Advisors	4,726	4,895	5,134	5,123	5,192	5,149	5,278	5,430	5,747	5,932	6,588	6,687	41%
Computer Systems Analysts	10,984	11,278	11,655	12,070	12,242	12,576	12,718	12,965	12,724	12,713	12,572	12,458	13%
Network and Computer Systems Administrators	6,244	6,487	6,625	6,729	6,413	6,126	5,985	5,757	5,232	5,021	4,702	4,690	(25%)
Software Developers and Software Quality Assurance Analysts and Testers	17,788	20,480	23,348	24,943	26,893	28,587	30,415	30,888	31,351	32,159	31,186	31,467	77%
Industrial Engineers	17,363	18,211	18,468	18,810	18,987	19,511	19,789	20,557	21,365	20,535	18,602	19,449	12%
Insurance Sales Agents	9,105	9,613	10,170	9,972	10,222	10,144	10,209	10,653	11,021	11,728	11,559	11,779	29%
Customer Service Representatives	45,314	48,016	50,022	51,079	52,694	53,945	55,975	56,327	57,209	57,284	53,645	53,860	19%

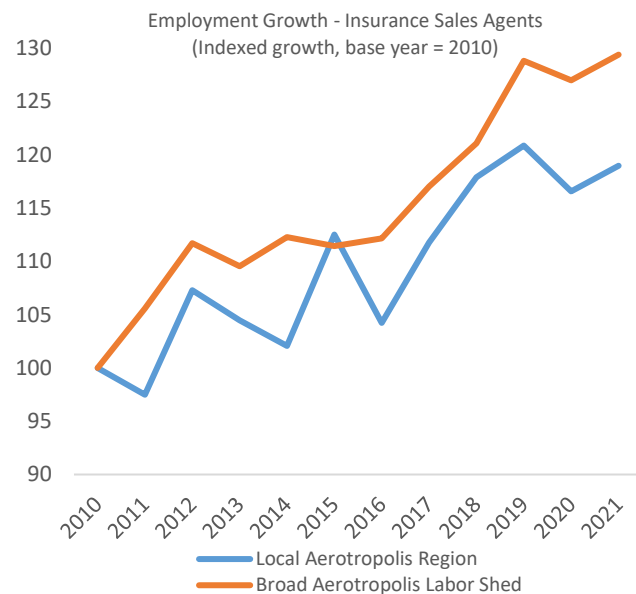
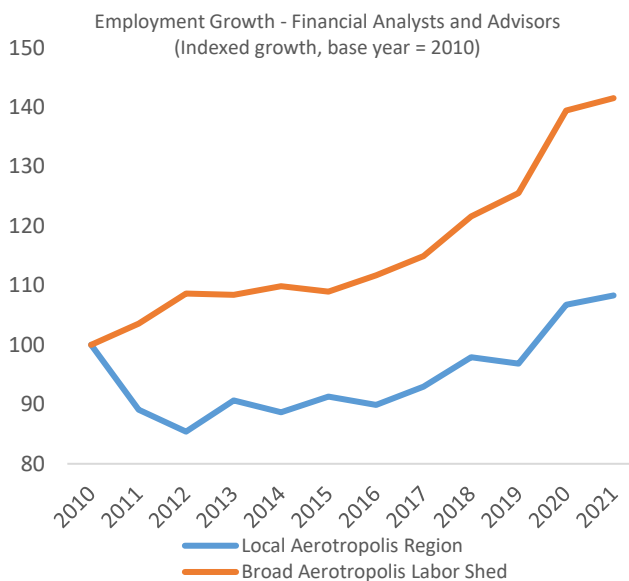
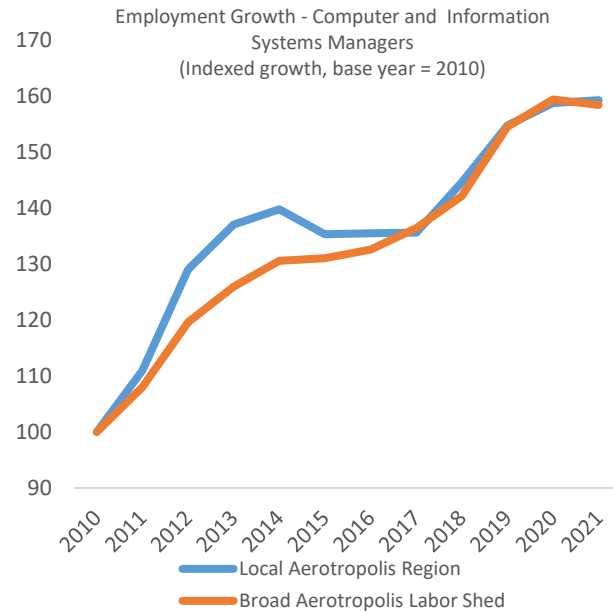
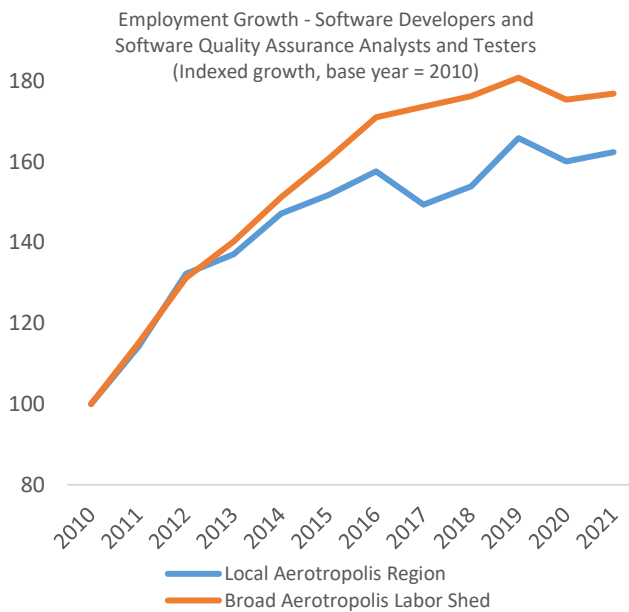
Data: EMSI | Analysis: Workforce Intelligence Network

The fastest growing industries for these occupations are information technology (IT) and business and finance. Between 2010-2021, the highest growing occupations are Software Developers and Software Quality Assurance Analysts and Testers, Computer and Information Systems Managers, Financial Analysts and Advisors, and Insurance Sales Agents. Almost all of the occupations analyzed, except for Network and Computer Systems Administrators, grew by 25.3% through 2021.



Data: EMSI | Analysis: Workforce Intelligence Network

In the highest growing occupations, the labor shed region has shown a steady increase in workers, since 2010, indicating more stability than the local regions. Software Developers and Software Quality Assurance Analysts and Testers and Insurance Sales Agents saw a decline in workers in 2020, a result of efforts to slow the pandemic during that time. growth in the local DRADC region tracked the broader labor region. While the workforce in both regions may be growing at different rates, they have shown the same trends during the past ten years.



Data: EMSI | Analysis: Workforce Intelligence Network

Occupational Wages

The local region wage levels are higher than the labor shed region. Median wage levels in the labor shed region were higher for three of the ten occupations analyzed, however the difference in wages for Computer Systems Analysts, Industrial Engineers, and Insurance Sales Agents between both regions vary by only +/- \$0.10-\$0.60 cents. With additional training and experience, wages increase significantly.

- Entry-level occupations with median wages above \$16.00 per hour in the DRADC local region.
 - Insurance Sales Agents
 - Customer Service Representatives
- Occupations with substantially higher wages above \$45.00 per hour in DRADC local region, corresponding with higher education levels and work experience.
 - Computer and Information Systems Managers (+\$21.99)
 - Software Developers and Software Quality Assurance Analysts and Testers (+\$1.48)
 - Industrial Engineers (+\$1.04)

Most of the workforce in the labor shed region is primarily white, accounting for 71.5% followed by Black or African American workers with 13.4%, and Asian workers with 9.9% Hispanic and Latino workers also account for 3.5% of workers in the region. Over half of workers employed are males, making up 54.1% of the workforce. The region has a high retirement population, indicating a potential talent shortage as most of the occupations require a bachelor's degree and only 7.7% of the workforce are between the ages of 14-24. Most of the workforce in the labor shed region are between the ages of 25-54.

Table 3. Percentile Earnings in DRADC Local Region, 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
Computer and Information Systems Managers	\$43.07	\$53.79	\$66.99	\$81.96	\$99.52
Management Analysts	\$23.77	\$32.20	\$42.52	\$55.38	\$79.22
Accountants and Auditors	\$23.42	\$28.73	\$36.64	\$47.53	\$61.17
Financial Analysts and Advisors	\$21.35	\$26.91	\$38.19	\$58.57	\$96.35
Computer Systems Analysts	\$29.67	\$35.84	\$44.76	\$54.99	\$67.11
Network and Computer Systems Administrators	\$27.28	\$32.94	\$40.19	\$49.06	\$57.95
Software Developers and Software Quality Assurance Analysts and Testers	\$28.93	\$36.66	\$46.48	\$57.82	\$67.55
Industrial Engineers	\$31.46	\$37.43	\$46.04	\$55.59	\$63.10
Insurance Sales Agents	\$14.53	\$17.75	\$24.78	\$38.73	\$63.17
Customer Service Representatives	\$11.63	\$13.73	\$17.50	\$23.65	\$31.70

Data: EMSI | Analysis: Workforce Intelligence Network

Table 4. Percentile Earnings in the DRADC Regional Labor Shed, 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
Computer and Information Systems Managers	\$41.37	\$51.09	\$64.20	\$78.80	\$95.29
Management Analysts	\$22.64	\$30.32	\$40.85	\$54.43	\$75.06

Accountants and Auditors	\$21.67	\$26.75	\$34.35	\$45.04	\$59.72
Financial Analysts and Advisors	\$21.16	\$26.96	\$37.53	\$56.11	\$93.63
Computer Systems Analysts	\$29.37	\$35.76	\$45.19	\$56.65	\$68.89
Network and Computer Systems Administrators	\$25.53	\$31.51	\$38.83	\$47.51	\$56.78
Software Developers and Software Quality Assurance Analysts and Testers	\$27.28	\$34.68	\$44.25	\$55.31	\$65.05
Industrial Engineers	\$31.86	\$37.77	\$46.47	\$56.21	\$63.96
Insurance Sales Agents	\$14.75	\$18.07	\$24.92	\$39.89	\$66.11
Customer Service Representatives	\$11.66	\$13.80	\$17.60	\$23.36	\$30.95

Data: EMSI | Analysis: Workforce Intelligence Network

Table 5. 2021 Hourly Earnings Differential (DRADC local region hourly wages less DRADC labor shed hourly wages)

SOC	Occupation	10 th Percentile Hourly Earnings	25 th Percentile Hourly Earnings	Median Hourly Earnings	75 th Percentile Hourly Earnings	90 th Percentile Hourly Earnings
11-3021	Computer and Information Systems Managers	\$1.70	\$2.70	\$2.79	\$3.16	\$4.23
13-1111	Management Analysts	\$1.13	\$1.88	\$1.67	\$0.95	\$4.16
13-2011	Accountants and Auditors	\$1.75	\$1.98	\$2.30	\$2.48	\$1.45
13-2050	Financial Analysts and Advisors	\$0.19	-\$0.05	\$0.66	\$2.47	\$2.72
15-1211	Computer Systems Analysts	\$0.30	\$0.08	-\$0.43	-\$1.66	-\$1.78
15-1244	Network and Computer Systems Administrators	\$1.75	\$1.42	\$1.36	\$1.56	\$1.17
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	\$1.65	\$1.98	\$2.22	\$2.50	\$2.49
17-2112	Industrial Engineers	-\$0.40	-\$0.35	-\$0.43	-\$0.63	-\$0.86
41-3021	Insurance Sales Agents	-\$0.22	-\$0.32	-\$0.14	-\$1.16	-\$2.94
43-4051	Customer Service Representatives	-\$0.03	-\$0.08	-\$0.10	\$0.29	\$0.75
Total Change in Wages		\$0.78	\$0.93	\$0.99	\$1.00	\$1.14

Data: EMSI | Analysis: Workforce Intelligence Network

Occupation Location Quotient

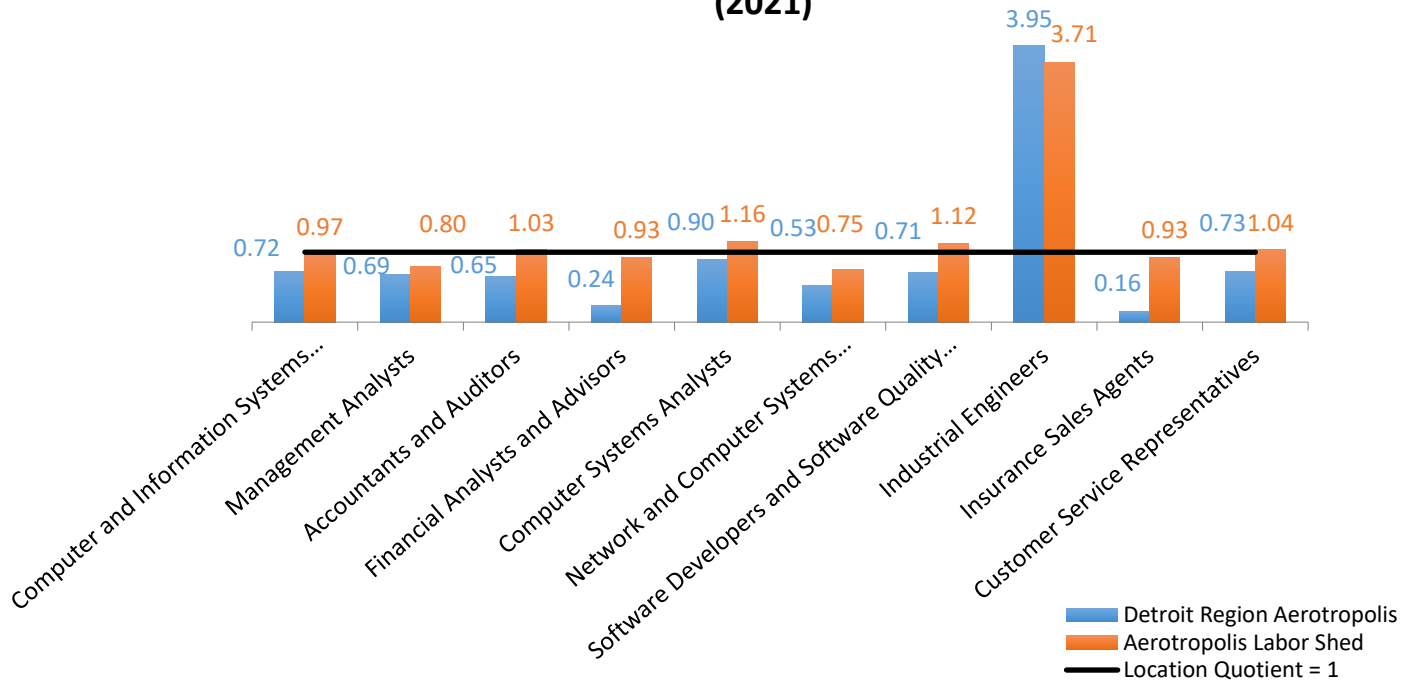
Industrial engineers in the DRADC local region have a location quotient (LQ) of 3.95, meaning that this type of worker is nearly 4 times more concentrated in this region than across the nation. Since 2015, the local region has seen a decrease in workers for this occupation.

- The LQ for industrial engineers in the labor shed region was 3.71 in 2021, similar to the local region, industrial engineers have seen a lower concentration of workers since 2015. However for both geographies, the concentration of workers is still higher than the national average.
- Industrial engineers are the only occupation local DRADC geography had a higher concentration than the labor shed.

Computer systems analysts and customer service representatives are almost as concentrated in the local region as the national average; with a LQ of 0.90 and 0.73 respectively. Information technology pathway occupations such as computer systems analysts (LQ = 1.16), software developers and software quality assurance analysts and testers (LQ = 1.12), customer service representatives (LQ = 1.04), computer and

information systems managers (LQ = 0.97), financial analysts and advisors (LQ = 0.93), and insurance sales agents (LQ = 0.93) have concentrations as high or higher than the national average in the labor shed region. Location quotients for the labor shed are higher than 0.75 for all occupations analyzed.

Location Quotient (2021)



Data: EMSI | Analysis: Workforce Intelligence Network

Labor Shed Supply-Demand

Demand for workers in these occupations for the labor shed region have steadily increased since 2010, although in 2020 as a result from shutdown measures to slow the pandemic, there was a decrease in demand by 8.9% for workers since 2019. However as recovery efforts for the economy and businesses in the DRADC labor shed region continue, demand for workers increased by 28.0% in 2021 since 2020, an addition of 15,807 jobs for the region.

Table 6. 2010-2021 Labor Shed Employer Demand

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
11-3021	Computer and Information Systems Managers	178	523	414	822	915	1,313	1,193	1,762	1,531	1,417	1,074	1,844
13-1111	Management Analysts	2,422	5,722	4,717	11,411	12,772	19,321	16,572	21,697	20,945	18,107	12,983	18,164
13-2011	Accountants and Auditors	2,300	6,188	4,651	12,795	10,747	17,312	17,008	18,084	15,760	15,689	13,447	17,505
13-2050	Financial Analysts and Advisors	1,047	1,175	1,257	1,379	1,465	1,597	1,641	1,713	1,850	1,977	2,084	2,220
15-1211	Computer Systems Analysts	2,480	5,862	4,369	10,222	11,004	16,392	14,378	15,826	16,086	13,926	11,224	14,992
15-1244	Network and Computer Systems Administrators	1,317	3,945	3,212	6,426	6,107	7,974	7,707	8,622	8,852	7,564	5,327	7,148

15-1256	Software Developers and Software Quality Assurance Analysts and Testers	10,347	27,340	21,867	43,902	41,500	69,410	69,824	80,019	83,331	72,314	58,155	72,223
17-2112	Industrial Engineers	641	2,616	2,429	4,840	5,186	8,503	8,437	9,047	6,669	5,030	3,206	5,177
41-3021	Insurance Sales Agents	1,195	3,379	2,583	4,499	4,688	5,852	7,896	11,211	8,600	12,910	16,622	14,001
43-4051	Customer Service Representatives	5,538	12,531	11,509	33,453	35,456	46,165	50,190	56,051	59,388	62,072	56,527	72,334

Data: EMSI | Analysis: Workforce Intelligence Network

Overall, demand for these occupations has increased substantially in the labor shed region since 2010, while there have been some fluctuations between the years, especially seen during 2020, demand has continued to recover through 2021 in the region

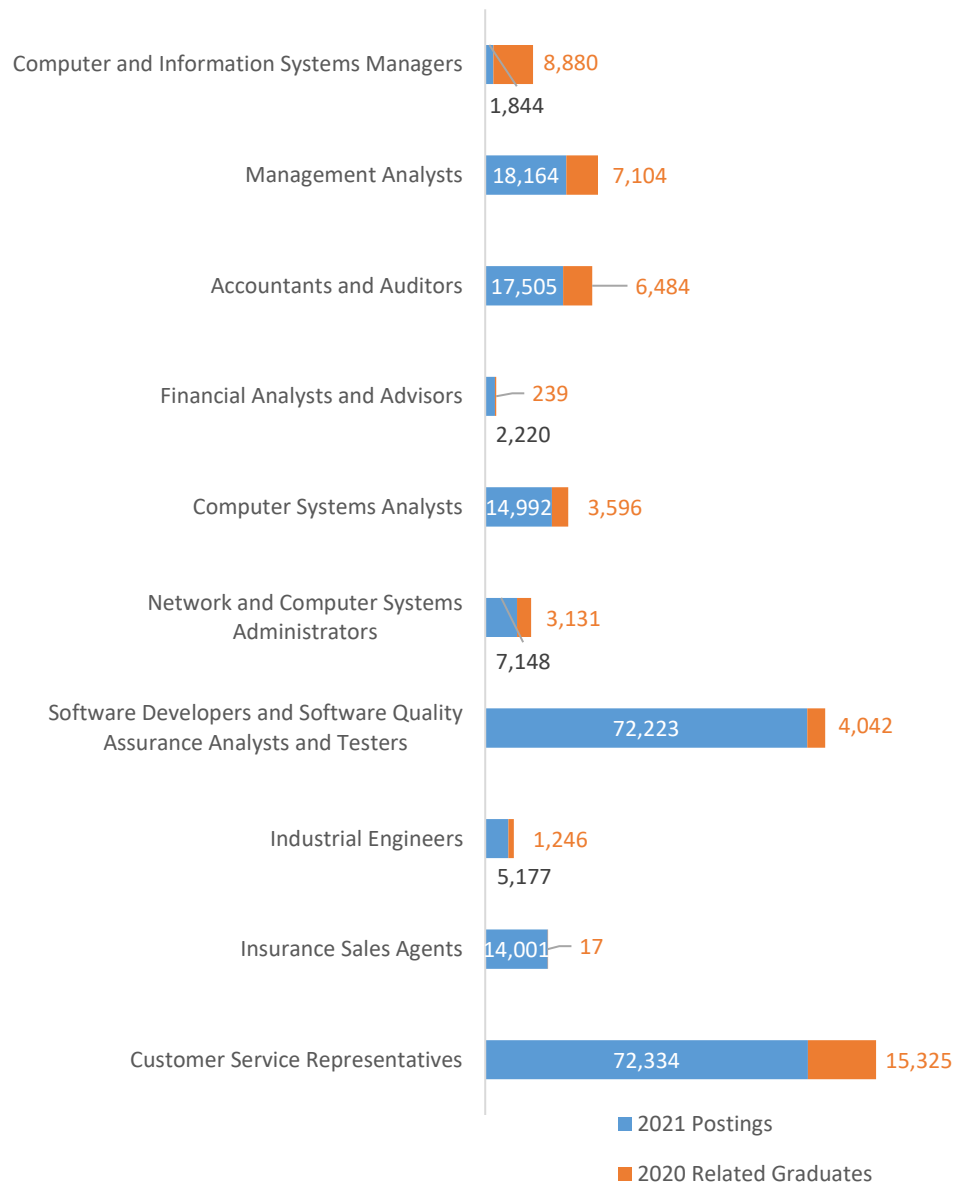
Table 7. 2010-2021 Labor Shed Employer Demand Growth

SOC	Occupation	2010 Postings	2012 Postings	2014 Postings	2016 Postings	2018 Postings	2020 Postings	2021 Postings	2010-2021 Demand Change	2010-2021 Demand % Change
11-3021	Computer and Information Systems Managers	178	414	915	1,193	1,531	1,074	1,844	1,666	936.0%
13-1111	Management Analysts	2,422	4,717	12,772	16,572	20,945	12,983	18,164	15,742	650.0%
13-2011	Accountants and Auditors	2,300	4,651	10,747	17,008	15,760	13,447	17,505	15,205	661.1%
13-2050	Financial Analysts and Advisors	1,047	1,257	1,465	1,641	1,850	2,084	2,220	1,173	112.0%
15-1211	Computer Systems Analysts	2,480	4,369	11,004	14,378	16,086	11,224	14,992	12,512	504.5%
15-1244	Network and Computer Systems Administrators	1,317	3,212	6,107	7,707	8,852	5,327	7,148	5,831	442.7%
15-1256	Software Developers and Software Quality Assurance Analysts and Testers	10,347	21,867	41,500	69,824	83,331	58,155	72,223	61,876	598.0%
17-2112	Industrial Engineers	641	2,429	5,186	8,437	6,669	3,206	5,177	4,536	707.6%
41-3021	Insurance Sales Agents	1,195	2,583	4,688	7,896	8,600	16,622	14,001	12,806	1071.6%
43-4051	Customer Service Representatives	5,538	11,509	35,456	50,190	59,388	56,527	72,334	66,796	1206.1%

Data: EMSI | Analysis: Workforce Intelligence Network

The regional completions for these occupations indicate a potential shortage of workers in the labor shed region. Financial Analysts and Advisors, Computer Systems Analysts, and Network and Computer Systems Administrators all indicate a gap in the number of graduates in related programs compared to employer demand for workers. Software Developers and Software Quality Assurance Analysts and Testers also indicate a gap in workers, with employers posting 72,223 jobs ads in 2021, while there were only 4,042 graduates in related programs in the region.

Labor Shed Region Postings and Completions



Data: EMSI | Analysis: Workforce Intelligence Network

Educational Attainment

Educational attainment in the state has increased since 2010. In 2021, Wayne County had the highest high school diploma residential graduates than Washtenaw County and the state, while Washtenaw County has higher graduates with bachelor's and graduate degrees. Many residents in these counties and the state have also completed some college in 2021 but has not yet finished.

Table 8. DRADC Region and State of Michigan 25+ Population Educational Attainment, 2021

Educational Attainment:	Washtenaw	Wayne	State of Michigan
Total Population Age 25+	235,067	1,186,236	6,947,815

Grade K - 8	1.2%	4.0%	2.7%
Grade 9 - 12	3.2%	8.7%	5.9%
High School Diploma	14.2%	29.8%	28.3%
Associate's Degree	7.2%	8.7%	9.7%
Bachelor's Degree	26.8%	14.9%	18.4%
Graduate Degree and Higher	30.5%	10.1%	11.9%
Some College, No Degree	16.9%	23.9%	23.1%
Total	100.0%	100.0%	100.0%

Data: EMSI | Analysis: Workforce Intelligence Network

Industry Analysis

The following highlights 2010-2021 industry employment growth, industry location quotient concentration, and wage analysis for corresponding top industries in the DRADC local region and labor shed region.

Trending Industries

Tables 9 and 10 below summarize 15 industries that experienced the most employment growth over the past ten years. Warehousing and storage, other miscellaneous manufacturing, and data processing, hosting and related services were the highest growing industries in the local region, based on workforce growth from 2010-2021, as compared to the labor shed region, where pipeline transportation of crude oil, other heavy and civic engineering construction, and activities related to credit intermediation were the highest growing industries, based on the growth in their workforce. While wages typically vary with education and experience levels, many industries offered wages above \$40,000 in both regions in 2021.

Table 9: Local Region Workforce, 2010-2021

Industry 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	2010 - 2021 % Change
Warehousing and Storage	729	802	910	832	892	884	1,089	1,284	2,011	3,256	4,896	5,286	4,558	626%
Other Miscellaneous Manufacturing	53	64	56	95	113	127	91	117	155	183	188	198	144	270%
Data Processing, Hosting, and Related Services	19	17	18	14	53	59	58	56	61	75	71	67	48	256%
Other General Purpose Machinery Manufacturing	36	44	43	36	33	41	73	70	82	103	107	121	85	240%
Other Miscellaneous Store Retailers	140	150	163	177	189	233	249	272	286	309	340	394	254	182%
Other Professional, Scientific, and Technical Services	339	335	361	388	415	438	481	551	723	816	842	924	585	172%
Postal Service	34	34	35	42	45	46	41	20	40	54	82	89	55	159%
Cement and Concrete Product Manufacturing	98	76	81	110	117	102	92	146	143	150	202	231	133	136%
Office Administrative Services	342	407	363	349	345	429	471	511	546	531	706	805	463	136%
Other Information Services	33	28	34	37	47	50	67	60	60	70	76	76	44	135%
Agriculture, Construction, and Mining Machinery Manufacturing	15	23	20	23	27	28	24	14	11	17	22	36	20	133%
Local Messengers and Local Delivery	113	146	166	179	151	175	182	181	194	210	210	243	130	116%
Grantmaking and Giving Services	31	33	34	35	48	60	61	65	67	63	55	59	29	94%

Psychiatric and Substance Abuse Hospitals	28	26	30	32	36	39	43	48	51	56	52	51	23	82%
Specialized Design Services	66	58	68	72	70	77	83	86	98	96	118	119	53	81%

Data: EMSI | Analysis: Workforce Intelligence Network

Table 10: Labor Shed Region Workforce, 2010-2021

Industry 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	2010 - 2021 % Change
Pipeline Transportation of Crude Oil	27	25	22	29	28	30	127	168	213	245	256	216	189	703%
Other Heavy and Civil Engineering Construction	422	414	440	469	508	540	568	547	599	831	1,423	1,780	1,358	322%
Activities Related to Credit Intermediation	4,060	4,399	5,549	7,487	8,814	10,224	12,101	13,272	13,442	13,207	15,333	16,889	12,829	316%
Other Information Services	1,287	1,421	1,541	2,023	2,367	2,486	3,064	3,651	4,012	4,222	4,744	4,931	3,644	283%
Forest Nurseries and Gathering of Forest Products	27	26	10	14	<10	19	49	66	56	98	104	104	76	279%
Warehousing and Storage	8,417	9,343	10,901	10,577	10,599	10,376	10,375	12,445	15,290	20,801	27,180	28,556	20,139	239%
Support Activities for Forestry	30	31	36	33	31	48	50	58	77	96	96	97	67	225%
Alumina and Aluminum Production and Processing	371	243	329	451	325	430	393	1,293	1,184	1,203	1,091	1,099	728	196%
Rooming and Boarding Houses, Dormitories, and Workers' Camps	286	192	202	252	350	469	556	722	973	1,018	807	795	509	178%
Postal Service	209	264	336	330	303	319	453	380	506	549	515	548	339	163%
Satellite Telecommunications	41	70	76	74	52	64	100	64	63	108	110	107	66	161%
Urban Transit Systems	88	206	152	127	139	137	156	164	179	216	199	222	135	153%
Other Electrical Equipment and Component Manufacturing	926	1,630	1,831	1,683	1,714	1,732	1,849	2,149	1,858	2,237	2,121	2,260	1,333	144%
Other Miscellaneous Manufacturing	4,269	4,624	4,863	4,971	5,553	6,239	7,004	7,445	8,634	9,696	9,182	9,879	5,609	131%
Local Messengers and Local Delivery	988	1,125	1,236	1,262	1,158	1,205	1,176	1,169	1,229	1,550	1,905	2,134	1,146	116%

Data: EMSI | Analysis: Workforce Intelligence Network

Table 11: 2021 Local Region Wages

Industry Description	2021 Wages
Warehousing and Storage	\$39,480
Other Miscellaneous Manufacturing	\$55,548
Data Processing, Hosting, and Related Services	\$104,096
Other General Purpose Machinery Manufacturing	\$70,782

Other Miscellaneous Store Retailers	\$37,112
Other Professional, Scientific, and Technical Services	\$56,404
Postal Service	\$41,950
Cement and Concrete Product Manufacturing	\$96,644
Office Administrative Services	\$98,996
Other Information Services	\$138,372
Agriculture, Construction, and Mining Machinery Manufacturing	\$60,887
Local Messengers and Local Delivery	\$30,675
Grantmaking and Giving Services	\$53,219
Psychiatric and Substance Abuse Hospitals	\$44,619
Specialized Design Services	\$79,361

Data: EMSI | Analysis: Workforce Intelligence Network

Table 12: 2021 Labor Shed Region Wages

Industry Description	2021 Wages
Pipeline Transportation of Crude Oil	\$113,006
Other Heavy and Civil Engineering Construction	\$93,771
Activities Related to Credit Intermediation	\$107,123
Other Information Services	\$108,961
Forest Nurseries and Gathering of Forest Products	\$32,547
Warehousing and Storage	\$46,902
Support Activities for Forestry	\$37,778
Alumina and Aluminum Production and Processing	\$82,754
Rooming and Boarding Houses, Dormitories, and Workers' Camps	\$22,741
Postal Service	\$44,480
Satellite Telecommunications	\$59,548
Urban Transit Systems	\$42,272
Other Electrical Equipment and Component Manufacturing	\$86,008
Other Miscellaneous Manufacturing	\$61,233
Local Messengers and Local Delivery	\$31,357

Data: EMSI | Analysis: Workforce Intelligence Network

Most Concentrated Industries

Tables 13 and 14 below list 15 industries with the highest location quotient (LQ) concentration in 2021. In the local region, nonscheduled air transportation, motor vehicle parts manufacturing, and motor vehicle body and trailer manufacturing the most concentrated industries, all having a LQ over ten times higher than the national average.

- The concentration of nonscheduled air transportation in the local region has grown from 22.11 in 2010 to 29.49, over 7 times more concentrated in the local region than the nation. Similarly, motor vehicle parts manufacturing and motor vehicle body and trailer manufacturing, which had location quotients of 22.17 and 10.55 in 2010 to 6.40 and 3.52 in 2021.
- Wages in these industries are higher in scale, most having wages above \$40,000 in 2021, due to entry requirements, however there are many industries open to entry-level workers, such as other residential care facilities, support activities for air transportation, and warehousing and storage.

Comparative to the local DRADC region, motor vehicle parts manufacturing, metalworking machinery manufacturing, and nonscheduled air transportation in the labor shed region has higher concentrations in these industries than the nation. These industries for both regions are not unusual, given the heavy transportation industry in Michigan.

- None of the top 15 industries in both Table 13 and Table 14 have a LQ below 2, indicating that they all have at least double the concentration of workers than the national average for these industries.
- The concentration of motor vehicle parts manufacturing in the local region has grown from 7.64 in 2010 to 9.07, more concentrated in the labor shed region than the nation. Similarly, metalworking machinery manufacturing and nonscheduled air transportation, which had location quotients of 5.76 and 1.98 in 2010 to 17.58 and 12.08 in 2021.
- Wages in these industries are higher in scale, most having wages above \$55,000 in 2021, due to entry requirements, however there are many industries open to entry-level workers, such as other residential care facilities and Rooming and Boarding Houses, Dormitories, and Workers' Camps.

Table 13: Local Region Industry Concentration: Location Quotient, 2010-2021

Industry Description	2010 LQ	2011 LQ	2012 LQ	2013 LQ	2014 LQ	2015 LQ	2016 LQ	2017 LQ	2018 LQ	2019 LQ	2020 LQ	2021 LQ
Nonscheduled Air Transportation	22.11	28.74	31.42	28.64	17.87	18.00	18.33	21.71	23.71	27.43	28.74	29.49
Scheduled Air Transportation	22.17	22.76	21.89	20.52	21.51	20.04	19.06	20.24	21.36	21.21	20.36	19.45
Motor Vehicle Parts Manufacturing	17.41	17.32	16.42	16.95	17.07	16.57	16.14	15.97	17.29	17.71	16.67	17.58
Motor Vehicle Body and Trailer Manufacturing	10.55	8.55	7.37	7.48	7.58	10.06	10.95	14.39	13.61	12.85	11.99	12.08
Other Support Activities for Transportation	8.51	7.96	8.41	7.47	11.89	12.05	12.61	12.94	16.81	15.71	7.96	8.37
Education and Hospitals (State Government)	5.45	5.41	5.75	5.91	6.10	6.24	6.46	6.57	6.63	6.64	6.94	6.87
Postal Service	8.19	7.55	5.82	5.83	5.58	4.86	3.41	1.61	3.29	4.35	6.40	6.58
Freight Transportation Arrangement	7.96	7.67	7.02	7.35	6.55	6.53	6.14	5.52	5.83	5.80	6.15	6.39
Pipeline Transportation of Natural Gas	4.87	4.04	3.49	3.85	3.91	4.87	6.15	6.53	6.24	5.99	5.98	6.04
Support Activities for Air Transportation	8.60	9.23	10.61	10.84	11.17	10.61	10.28	8.63	7.23	6.92	6.17	5.73
Scientific Research and Development Services	5.35	5.20	5.54	6.31	6.46	6.47	6.45	5.70	5.17	4.93	4.97	4.92
Commercial and Service Industry Machinery Manufacturing	4.01	4.18	2.50	2.83	2.67	2.97	3.71	3.67	3.72	3.93	4.00	4.06
Warehousing and Storage	1.22	1.29	1.42	1.25	1.29	1.15	1.27	1.35	1.88	2.76	3.61	3.61
Metalworking Machinery Manufacturing	3.36	3.28	3.38	3.47	3.38	3.46	3.49	3.37	3.29	3.32	3.42	3.59
Other Residential Care Facilities	3.60	4.45	4.59	4.25	4.30	4.24	4.25	4.40	3.81	3.80	3.94	3.30

Data: EMSI | Analysis: Workforce Intelligence Network

Table 14: Labor Shed Region Industry Concentration: Location Quotient, 2010-2021

Industry Description	2010 LQ	2011 LQ	2012 LQ	2013 LQ	2014 LQ	2015 LQ	2016 LQ	2017 LQ	2018 LQ	2019 LQ	2020 LQ	2021 LQ
Motor Vehicle Manufacturing	12.32	12.54	12.43	13.20	13.11	10.00	9.81	9.99	9.64	9.63	9.33	10.32
Motor Vehicle Parts Manufacturing	7.64	7.69	7.82	7.78	7.89	7.97	8.00	8.22	8.42	8.58	8.70	9.07

Metalworking Machinery Manufacturing	5.76	6.05	6.46	6.55	6.61	6.70	6.86	6.95	6.83	6.51	6.39	6.40
Nonscheduled Air Transportation	1.98	2.29	2.47	3.45	2.54	2.63	2.82	2.26	2.86	3.50	3.47	3.52
Coating, Engraving, Heat Treating, and Allied Activities	3.27	3.29	3.38	3.42	3.44	3.51	3.48	3.48	3.41	3.43	3.22	3.31
Paint, Coating, and Adhesive Manufacturing	1.80	2.02	2.10	2.34	2.64	3.00	3.16	3.30	3.29	3.24	3.30	3.25
Rooming and Boarding Houses, Dormitories, and Workers' Camps	1.07	0.69	0.70	0.87	1.18	1.61	1.84	2.37	3.13	3.26	3.12	3.10
Activities Related to Credit Intermediation	0.81	0.87	1.06	1.35	1.61	1.83	2.15	2.28	2.32	2.33	2.74	2.87
Architectural, Engineering, and Related Services	2.15	2.31	2.45	2.56	2.67	2.89	2.98	2.76	2.79	2.76	2.75	2.75
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	1.85	2.02	2.08	2.13	2.29	2.44	2.55	2.43	2.46	2.52	2.50	2.71
Other Residential Care Facilities	1.79	1.90	1.96	2.05	2.12	2.04	2.10	2.21	2.30	2.43	2.50	2.52
Engine, Turbine, and Power Transmission Equipment Manufacturing	1.94	1.93	1.96	2.00	2.09	2.20	2.16	2.14	2.19	2.31	2.32	2.47
Iron and Steel Mills and Ferroalloy Manufacturing	3.18	3.63	3.32	3.26	3.44	3.28	3.47	3.31	3.25	3.13	2.50	2.35
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	2.16	2.23	2.23	2.34	2.41	2.47	2.57	2.55	2.51	2.30	2.17	2.26
Education and Hospitals (State Government)	2.08	2.06	2.08	2.07	2.09	2.14	2.15	2.17	2.20	2.23	2.19	2.12

Data: EMSI | Analysis: Workforce Intelligence Network

Table 15: 2021 Local Region Wages

Industry Description	2021 Wages
Nonscheduled Air Transportation	\$109,973
Scheduled Air Transportation	\$102,621
Motor Vehicle Parts Manufacturing	\$72,872
Motor Vehicle Body and Trailer Manufacturing	\$69,129
Other Support Activities for Transportation	\$47,186
Education and Hospitals (State Government)	\$65,167
Postal Service	\$41,950
Freight Transportation Arrangement	\$64,463
Pipeline Transportation of Natural Gas	\$123,868
Support Activities for Air Transportation	\$34,122
Scientific Research and Development Services	\$123,459
Commercial and Service Industry Machinery Manufacturing	\$68,206
Warehousing and Storage	\$39,480
Metalworking Machinery Manufacturing	\$74,681
Other Residential Care Facilities	\$35,191

Data: EMSI | Analysis: Workforce Intelligence Network

Table 16: 2021 Labor Shed Region Wages

Industry Description	2021 Wages
Motor Vehicle Manufacturing	\$70,421
Motor Vehicle Parts Manufacturing	\$77,257
Metalworking Machinery Manufacturing	\$75,816
Nonscheduled Air Transportation	\$87,397
Coating, Engraving, Heat Treating, and Allied Activities	\$57,191

Paint, Coating, and Adhesive Manufacturing	\$99,571
Rooming and Boarding Houses, Dormitories, and Workers' Camps	\$22,741
Activities Related to Credit Intermediation	\$107,123
Architectural, Engineering, and Related Services	\$109,377
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	\$87,717
Other Residential Care Facilities	\$31,731
Engine, Turbine, and Power Transmission Equipment Manufacturing	\$91,654
Iron and Steel Mills and Ferroalloy Manufacturing	\$92,259
Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	\$64,915
Education and Hospitals (State Government)	\$59,192

Data: EMSI | Analysis: Workforce Intelligence Network

Emerging Industries

Tables 17 and 18 below summarize the 8-15 industries with the fastest growing concentration of workers, that is, the tables list the industries whose location quotients were below 1 in 2010 and above 1 in 2021. These industries are growing in concentration and likely to have strong employment growth moving forward.

- In the local region, there are fewer emerging industries, however the growth of these industries since 2010 have higher concentrations than other analyzed industries in the region. Wages for these industries scale high with specialization, although Other Transportation Equipment Manufacturing and Personal and Household Goods Repair and Maintenance industries are open to entry-level workers.
- Similarly, industries in the labor shed region have also grown with activities related to credit intermediation, forest nurseries and gathering of forest products, and other miscellaneous manufacturing showing the strongest growth of 1 to 2 times more concentrated in the region than the nation. Wages for these industries scale from entry-level to experienced workers.

Table 17: Local Region Industry Concentration Growth: Location Quotient (2010 vs.2021)

Industry Description	2021 Jobs	2010 Location Quotient	2021 Location Quotient
Other Transportation Equipment Manufacturing	84	0.05	2.45
Water, Sewage and Other Systems	119	0.06	2.30
Office Administrative Services	805	0.86	1.60
Cement and Concrete Product Manufacturing	231	0.61	1.30
Personal and Household Goods Repair and Maintenance	167	0.88	1.22
Machinery, Equipment, and Supplies Merchant Wholesalers	707	0.68	1.12
Other Professional, Scientific, and Technical Services	924	0.53	1.04
Highway, Street, and Bridge Construction	329	0.80	1.01

Data: EMSI | Analysis: Workforce Intelligence Network

Table 18: Labor Shed Region Industry Concentration Growth: Location Quotient (2010 vs.2021)

Industry Description	2021 Jobs	2010 Location Quotient	2021 Location Quotient
Activities Related to Credit Intermediation	16,889	0.81	2.87
Forest Nurseries and Gathering of Forest Products	104	0.39	2.09
Other Miscellaneous Manufacturing	9,879	0.78	1.80

Other Investment Pools and Funds	317	0.41	1.51
Nondepository Credit Intermediation	15,939	0.78	1.45
Other Telecommunications	1,931	0.90	1.27
School and Employee Bus Transportation	3,499	0.66	1.22
Educational Support Services	4,216	0.87	1.21
General Rental Centers	639	0.69	1.20
Support Activities for Rail Transportation	687	0.88	1.13
Alumina and Aluminum Production and Processing	1,099	0.37	1.12
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	5,428	0.86	1.08
General Freight Trucking	23,998	0.85	1.07
Other Personal Services	8,277	0.89	1.06
Business Support Services	16,097	0.84	1.03

Data: EMSI | Analysis: Workforce Intelligence Network

Table 19: 2021 Local Region Wages

Industry Description	2021 Wages
Other Transportation Equipment Manufacturing	\$29,504
Water, Sewage and Other Systems	\$75,219
Other Professional, Scientific, and Technical Services	\$56,404
Cement and Concrete Product Manufacturing	\$96,644
Machinery, Equipment, and Supplies Merchant Wholesalers	\$81,354
Highway, Street, and Bridge Construction	\$98,409
Office Administrative Services	\$98,996
Personal and Household Goods Repair and Maintenance	\$34,828

Data: EMSI | Analysis: Workforce Intelligence Network

Table 20: 2021 Labor Shed Region Wages

Industry Description	2021 Wages
Alumina and Aluminum Production and Processing	\$82,754
Forest Nurseries and Gathering of Forest Products	\$32,547
Other Investment Pools and Funds	\$152,775
School and Employee Bus Transportation	\$25,981
General Rental Centers	\$41,931
Nondepository Credit Intermediation	\$101,108
Other Miscellaneous Manufacturing	\$61,233
Activities Related to Credit Intermediation	\$107,123
Business Support Services	\$52,783
General Freight Trucking	\$60,171
Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	\$71,564
Educational Support Services	\$40,672
Support Activities for Rail Transportation	\$53,854
Other Personal Services	\$28,394
Other Telecommunications	\$68,334

Data: EMSI | Analysis: Workforce Intelligence Network

Conclusion

Data analysis for the DRADC regions indicate the strong growth since 2010. Employment for occupations has steadily increased in both the local and labor shed region, despite the ongoing recovery efforts to the economy due to COVID-19, demand for workers has increased in the region, almost reaching pre-pandemic levels. Industries in the DRADC region has also grown since 2010, indicating high concentrations of workers in transportation, distribution, and logistics, information technology, and advanced manufacturing industries. The local region has fewer emerging industries than the labor shed region, however the industries prevalent in those geographies have concentrations of workers higher than the national average. Wages corresponding with education and experience levels are higher for the local region than the labor shed, making the DRADC region competitive for workers. As the global economy continues to shift and adjust to outside factors, the DRADC region is poised to embrace the changes and transform them into areas of opportunities for the region.