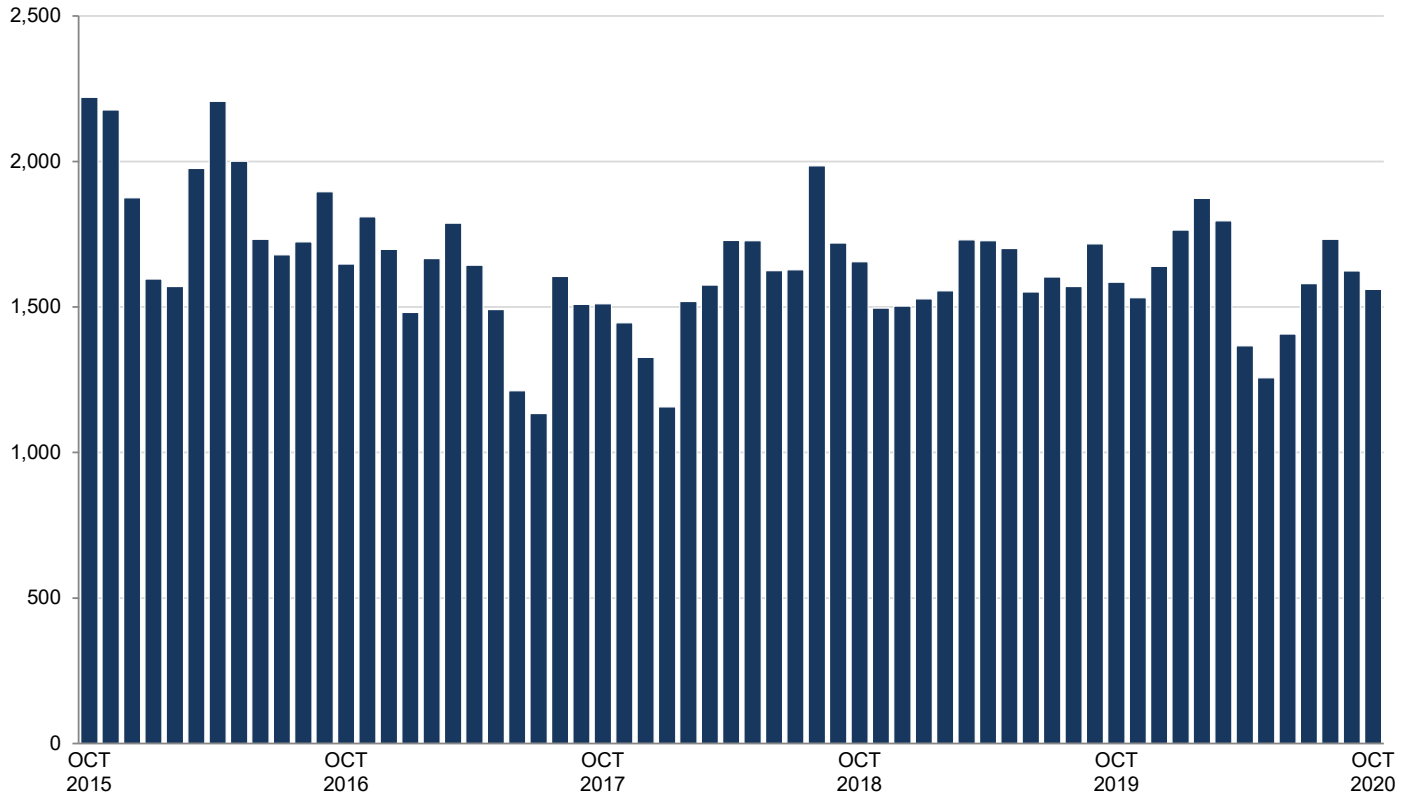


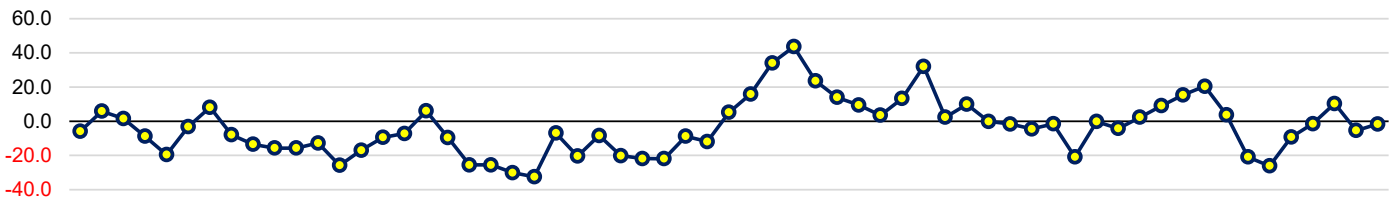
# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

REGION 4 JOB OPENINGS

[ALL JOB OPENINGS]



## YEAR-OVER-YEAR PERCENT CHANGE IN JOB OPENINGS



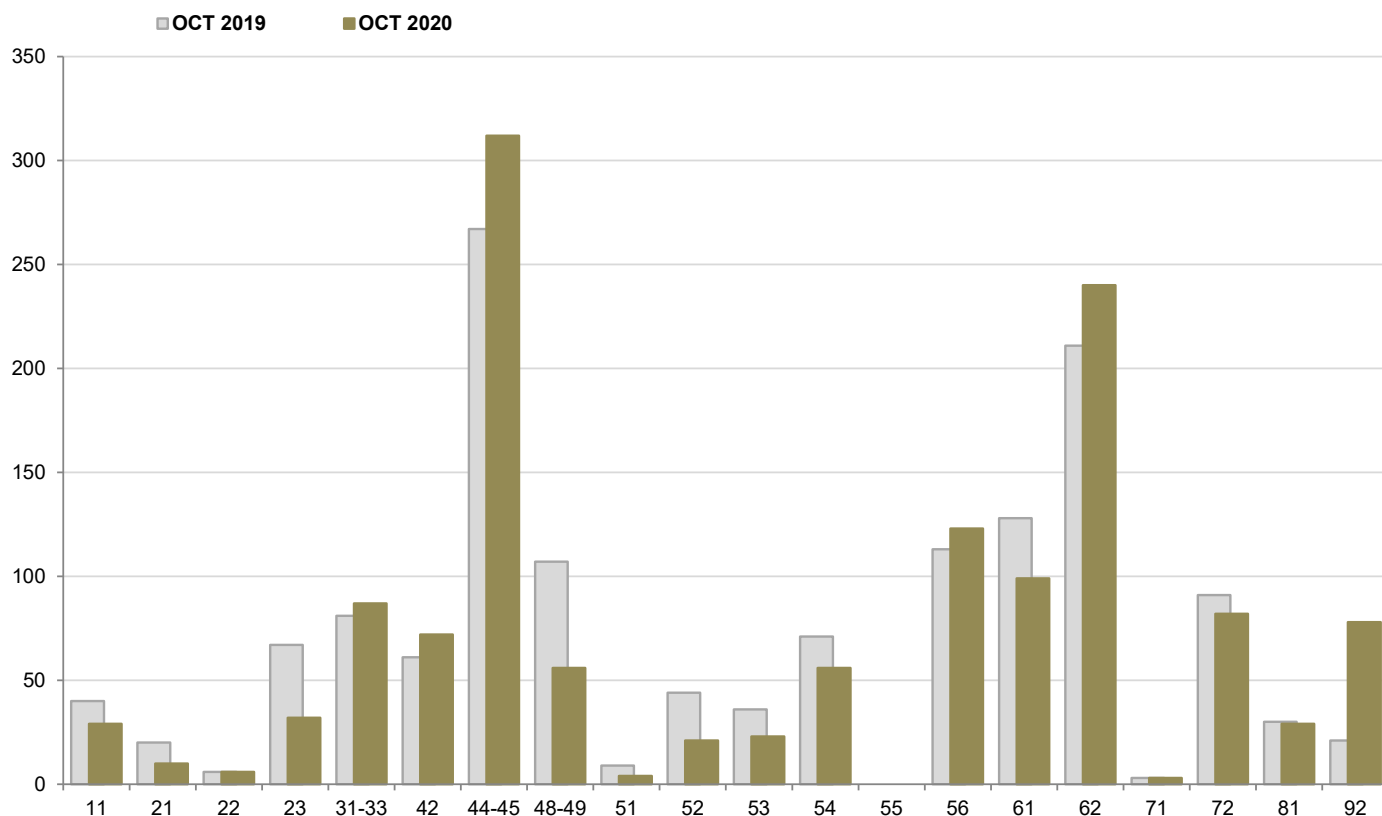
RECENT TREND	JOB OPENINGS	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG	12 MO MOV AVG	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG	
	MAY 2019	1,701	-27	-1.6	-27	-1.6	1,655	-2	-0.1	+201	+13.8
	JUN 2019	1,552	-149	-8.8	-73	-4.5	1,649	-6	-0.4	+160	+10.7
	JUL 2019	1,603	+51	+3.3	-25	-1.5	1,646	-3	-0.2	+116	+7.6
	AUG 2019	1,570	-33	-2.1	-415	-20.9	1,612	-34	-2.1	+50	+3.2
	SEP 2019	1,717	+147	+9.4	-3	-0.2	1,612	0	0.0	+33	+2.1
	OCT 2019	1,585	-132	-7.7	-70	-4.2	1,606	-6	-0.4	+15	+0.9
	NOV 2019	1,532	-53	-3.3	+36	+2.4	1,609	+3	+0.2	+14	+0.9
	DEC 2019	1,640	+108	+7.0	+137	+9.1	1,620	+11	+0.7	+10	+0.6
	JAN 2020	1,764	+124	+7.6	+236	+15.4	1,640	+20	+1.2	-1	-0.1
	FEB 2020	1,873	+109	+6.2	+318	+20.5	1,666	+26	+1.6	+22	+1.3
	MAR 2020	1,796	-77	-4.1	+65	+3.8	1,672	+6	+0.4	+15	+0.9
	APR 2020	1,366	-430	-23.9	-362	-20.9	1,642	-30	-1.8	-15	-0.9
	MAY 2020	1,257	-109	-8.0	-444	-26.1	1,605	-37	-2.3	-50	-3.0
	JUN 2020	1,407	+150	+11.9	-145	-9.3	1,593	-12	-0.7	-56	-3.4
	JUL 2020	1,580	+173	+12.3	-23	-1.4	1,591	-2	-0.1	-55	-3.3
	AUG 2020	1,733	+153	+9.7	+163	+10.4	1,604	+13	+0.8	-8	-0.5
	SEP 2020	1,624	-109	-6.3	-93	-5.4	1,596	-8	-0.5	-16	-1.0
	<b>OCT 2020</b>	<b>1,560</b>	<b>-64</b>	<b>-3.9</b>	<b>-25</b>	<b>-1.6</b>	<b>1,594</b>	<b>-2</b>	<b>-0.1</b>	<b>-12</b>	<b>-0.7</b>

[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 JOB OPENINGS BY INDUSTRY

[ALL JOB OPENINGS]



[NAICS CODE] INDUSTRY	OCT 2019	SEP 2020	OCT 2020	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG
[11] Agriculture, Forestry, Fishing and Hunting	40	25	29	+4	+16.0	-11	-27.5
[21] Mining, Quarrying, and Oil and Gas Extraction	20	1	10	+9	+900.0	-10	-50.0
[22] Utilities	6	2	6	+4	+200.0	0	0.0
[23] Construction	67	41	32	-9	-22.0	-35	-52.2
[31-33] Manufacturing	81	74	87	+13	+17.6	+6	+7.4
[42] Wholesale Trade	61	97	72	-25	-25.8	+11	+18.0
[44-45] Retail Trade	267	271	312	+41	+15.1	+45	+16.9
[48-49] Transportation and Warehousing	107	149	56	-93	-62.4	-51	-47.7
[51] Information	9	8	4	-4	-50.0	-5	-55.6
[52] Finance and Insurance	44	25	21	-4	-16.0	-23	-52.3
[53] Real Estate and Rental and Leasing	36	17	23	+6	+35.3	-13	-36.1
[54] Professional and Technical Services	71	54	56	+2	+3.7	-15	-21.1
[55] Management of Companies and Enterprises	0	1	0	-1	-100.0	0	0.0
[56] Administrative and Waste Services	113	127	123	-4	-3.1	+10	+8.8
[61] Educational Services	128	105	99	-6	-5.7	-29	-22.7
[62] Health Care and Social Assistance	211	211	240	+29	+13.7	+29	+13.7
[71] Arts, Entertainment, and Recreation	3	10	3	-7	-70.0	0	0.0
[72] Accommodation and Food Services	91	90	82	-8	-8.9	-9	-9.9
[81] Other Services (except Public Administration)	30	13	29	+16	+123.1	-1	-3.3
[92] Public Administration	21	74	78	+4	+5.4	+57	+271.4
Unclassified	179	229	198	-31	-13.5	+19	+10.6
<b>TOTAL</b>	<b>1,585</b>	<b>1,624</b>	<b>1,560</b>	<b>-64</b>	<b>-3.9</b>	<b>-25</b>	<b>-1.6</b>

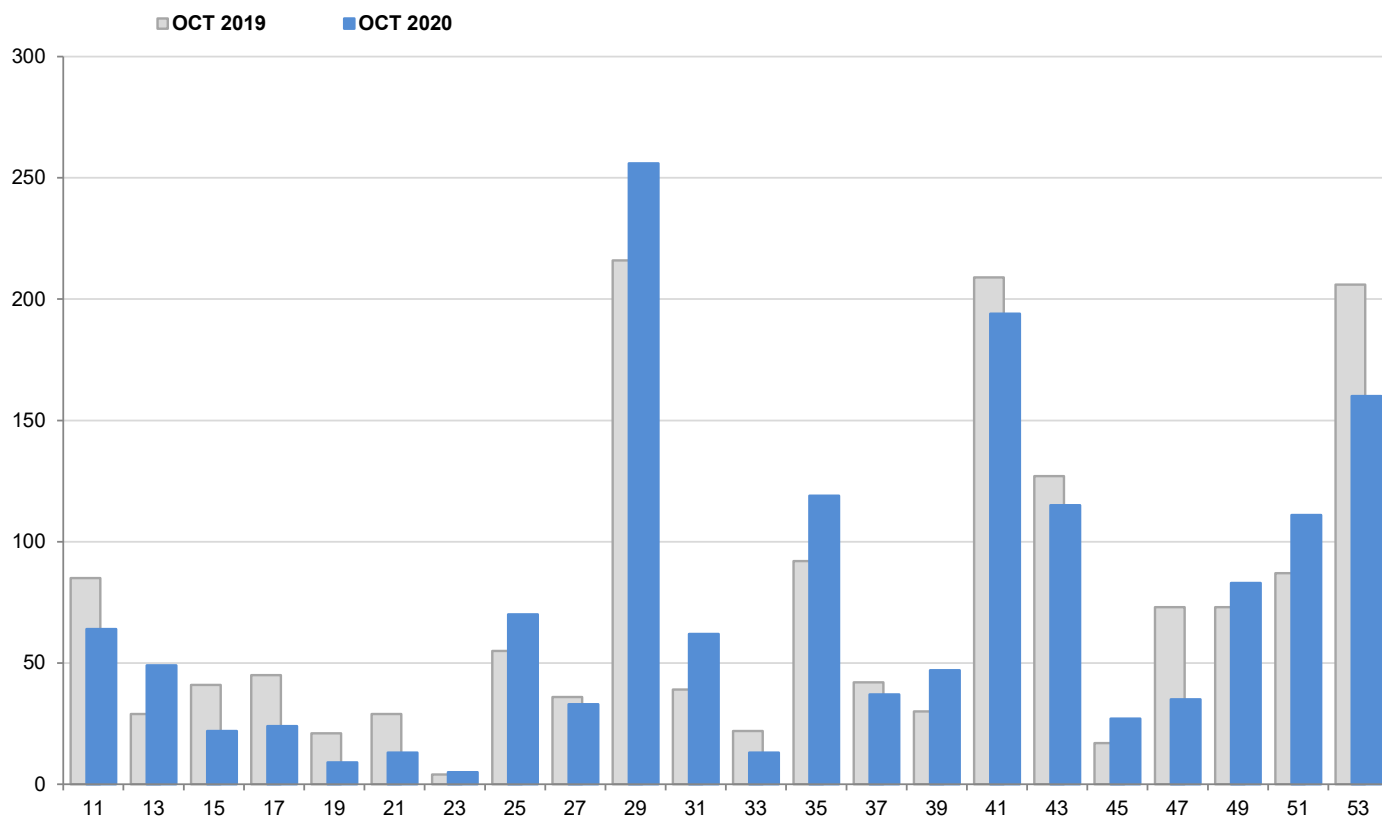
**What is the difference between an industry and an occupation?** The main business activity of the employer determines the industry of both the employer and its employees. Employees may perform different types of work for the same employer but still belong to the same industry. The type of work an employee does determines the occupation of the employee. For example, an accountant working at a hospital belongs to the Health Care and Social Assistance industry (main function of the employer) and the Business and Financial Operations occupation group (main function of the employee).

[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 JOB OPENINGS BY OCCUPATION GROUP

[ALL JOB OPENINGS]



[SOC CODE] OCCUPATION GROUP	OCT 2019	SEP 2020	OCT 2020	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG
[11] Management	85	68	64	-4	-5.9	-21	-24.7
[13] Business and Financial Operations	29	23	49	+26	+113.0	+20	+69.0
[15] Computer and Mathematical	41	28	22	-6	-21.4	-19	-46.3
[17] Architecture and Engineering	45	18	24	+6	+33.3	-21	-46.7
[19] Life, Physical, and Social Science	21	23	9	-14	-60.9	-12	-57.1
[21] Community and Social Service	29	22	13	-9	-40.9	-16	-55.2
[23] Legal	4	4	5	+1	+25.0	+1	+25.0
[25] Educational Instruction and Library	55	97	70	-27	-27.8	+15	+27.3
[27] Arts, Design, Entertainment, Sports, and Media	36	47	33	-14	-29.8	-3	-8.3
[29] Healthcare Practitioners and Technical	216	242	256	+14	+5.8	+40	+18.5
[31] Healthcare Support	39	52	62	+10	+19.2	+23	+59.0
[33] Protective Service	22	21	13	-8	-38.1	-9	-40.9
[35] Food Preparation and Serving Related	92	100	119	+19	+19.0	+27	+29.3
[37] Building and Grounds Cleaning and Maintenance	42	33	37	+4	+12.1	-5	-11.9
[39] Personal Care and Service	30	42	47	+5	+11.9	+17	+56.7
[41] Sales and Related	209	177	194	+17	+9.6	-15	-7.2
[43] Office and Administrative Support	127	133	115	-18	-13.5	-12	-9.4
[45] Farming, Fishing, and Forestry	17	30	27	-3	-10.0	+10	+58.8
[47] Construction and Extraction	73	39	35	-4	-10.3	-38	-52.1
[49] Installation, Maintenance, and Repair	73	76	83	+7	+9.2	+10	+13.7
[51] Production	87	100	111	+11	+11.0	+24	+27.6
[53] Transportation and Material Moving	206	242	160	-82	-33.9	-46	-22.3
[55] Military Specific	4	4	9	+5	+125.0	+5	+125.0
Unclassified	3	3	3	0	0.0	0	0.0
<b>TOTAL</b>	<b>1,585</b>	<b>1,624</b>	<b>1,560</b>	<b>-64</b>	<b>-3.9</b>	<b>-25</b>	<b>-1.6</b>

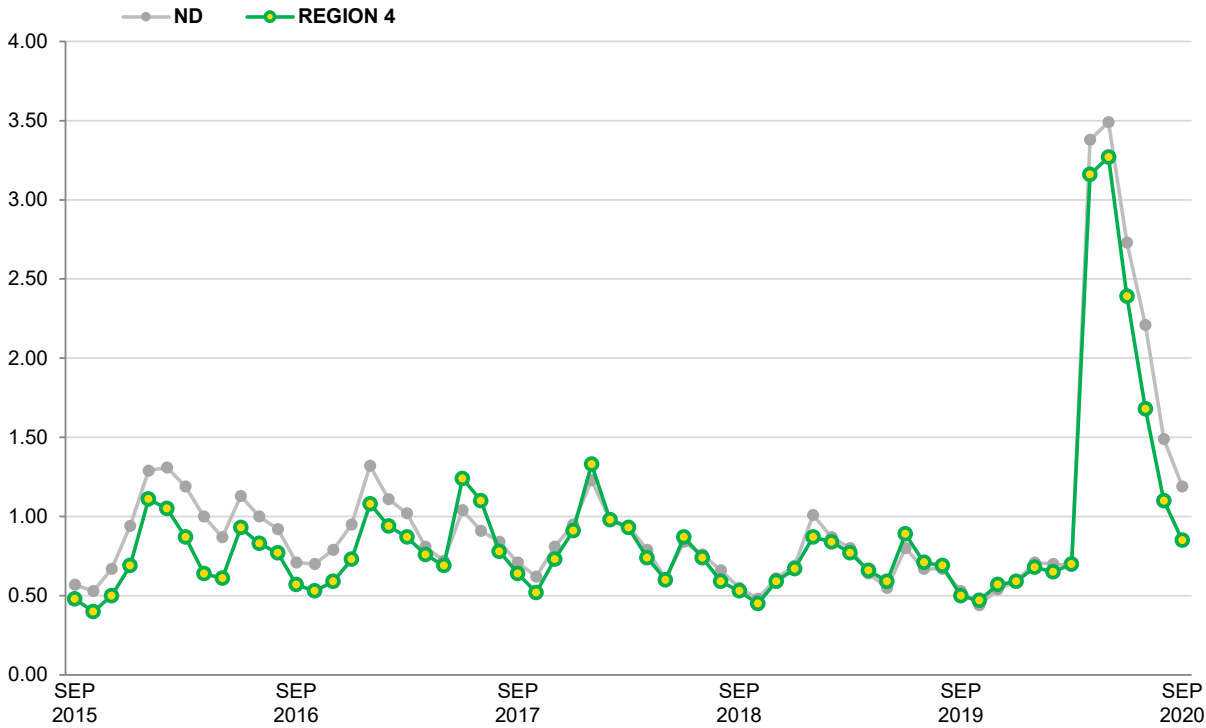
[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 UNEMPLOYED PER JOB OPENING

[ALL JOB OPENINGS]

Unemployed per job opening is a rate of the number of unemployed persons divided by job openings. A rate less than one indicates more job openings than local labor supply; a rate greater than one indicates more local labor supply than job openings. The latest month available for regional data is September 2020.

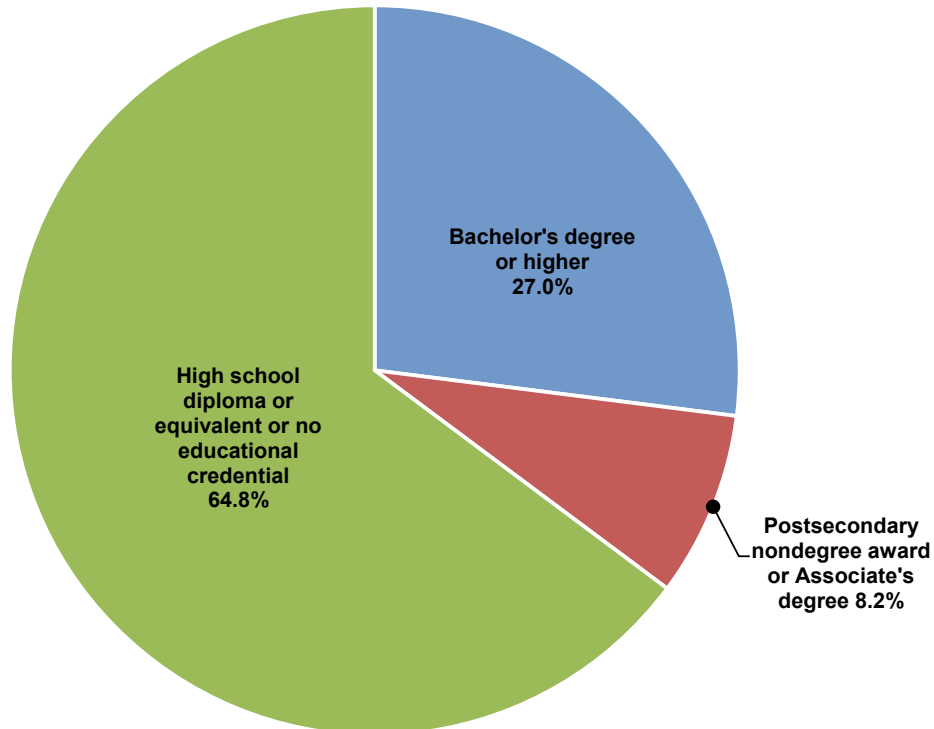


REGION 4	
SEP 2020	0.85
LAST MONTH	1.10
LAST YEAR	0.50
NORTH DAKOTA	
SEP 2020	1.19
LAST MONTH	1.49
LAST YEAR	0.53

## REGION 4 DISTRIBUTION OF JOB OPENINGS BY TYPICAL ENTRY-LEVEL EDUCATION

[ALL JOB OPENINGS]

Typical entry-level education describes the level of education that most workers need to enter an occupation or occupational group, and takes into consideration advertised education requirement preferences. Keep in mind, an opening's typical entry-level education assignment may differ from employers' advertised education requirements, though most match. Mismatches commonly occur due to either missing education requirements from the employer's job ad or education inflation where an employer advertises for more education than is typically needed for an occupation. Using the typical entry-level education framework provides for consistency across occupations regardless of an employer's advertised preference.



OCT 2020	
TOTAL	1,560
DOC OR PROF	42
MASTER'S	21
BACHELOR'S	354
ASSOCIATE'S	39
POSTSEC AWARD	89
HIGH SCHOOL	660
NO EDU CRED	343
UNASSIGNED	12

[Unassigned openings excluded from pie chart calculations]

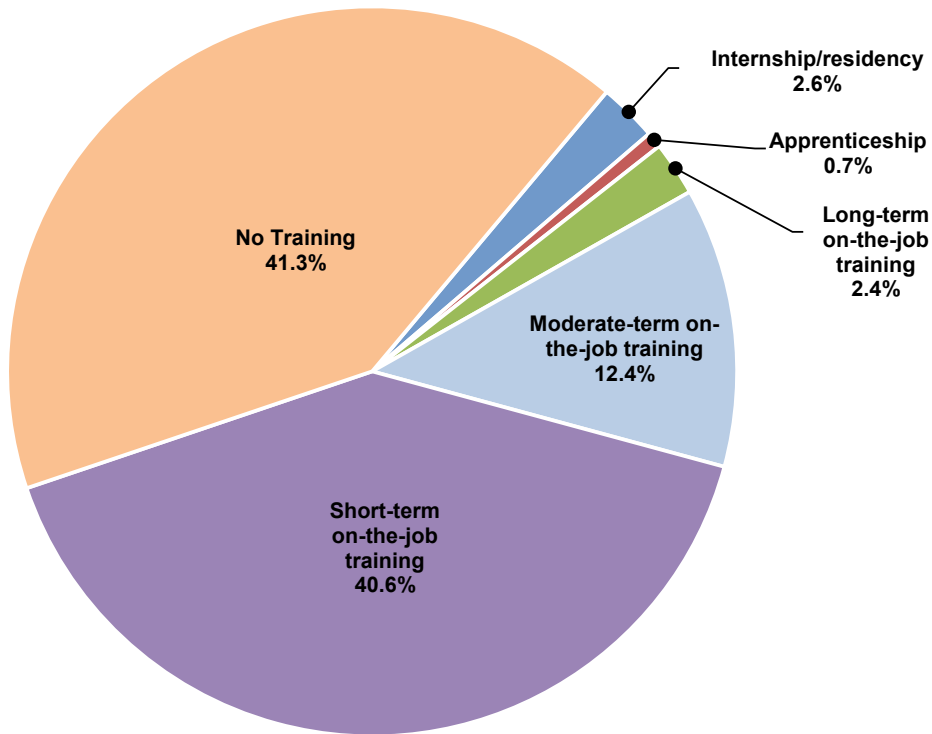
[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 DISTRIBUTION OF JOB OPENINGS BY TYPICAL TRAINING

[ALL JOB OPENINGS]

Typical training describes any additional training or preparation that is typically needed, once employed, to attain competency in the skills needed in an occupation or occupational group.



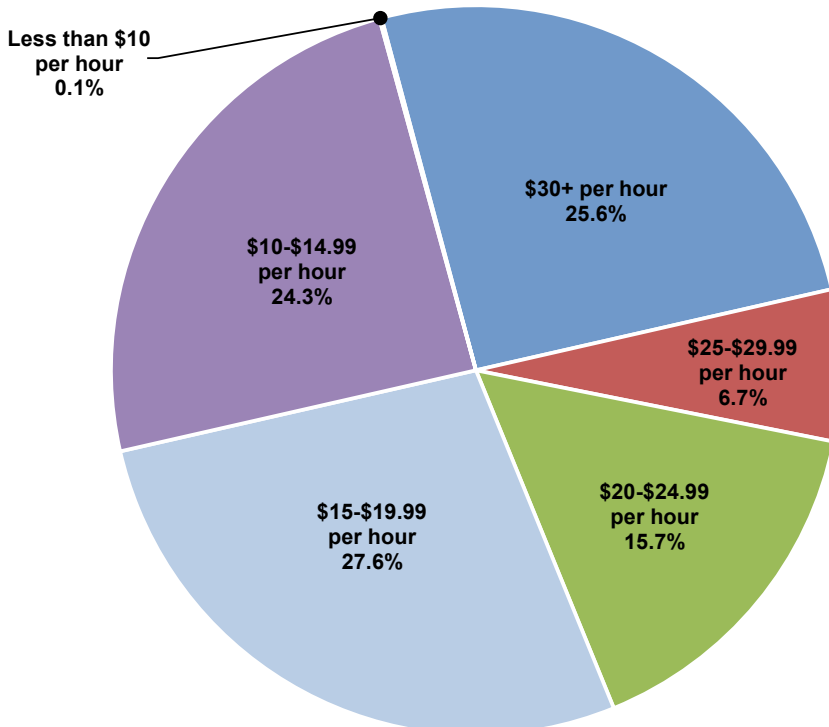
OCT 2020
<b>TOTAL</b>
1,560
<b>INTERN/RES</b>
40
<b>APPRENTICESHIP</b>
11
<b>LT OJT</b>
37
<b>MT OJT</b>
192
<b>ST OJT</b>
628
<b>NO TRAINING</b>
640
<b>UNASSIGNED</b>
12

[Unassigned openings excluded from pie chart calculations]

## REGION 4 DISTRIBUTION OF JOB OPENINGS BY TYPICAL AVERAGE WAGE

[ALL JOB OPENINGS]

Most employers don't post wages for openings in job ads. Instead, we use typical average wages paid to workers already employed in specific occupations or occupational groups as a proxy to estimate the wage distribution of job openings. Typical average wages are from the latest Occupational Employment Statistics (OES) survey and should not be interpreted as a hiring wage since OES data are not exclusive to new hires. The estimated typical average wage of Region 4 job openings with an assigned occupational code is \$23.78 per hour.



OCT 2020
<b>TOTAL</b>
1,560
<b>\$30+</b>
395
<b>\$25-\$29.99</b>
104
<b>\$20-\$24.99</b>
242
<b>\$15-\$19.99</b>
425
<b>\$10-\$14.99</b>
375
<b>LESS THAN \$10</b>
1
<b>UNASSIGNED</b>
18

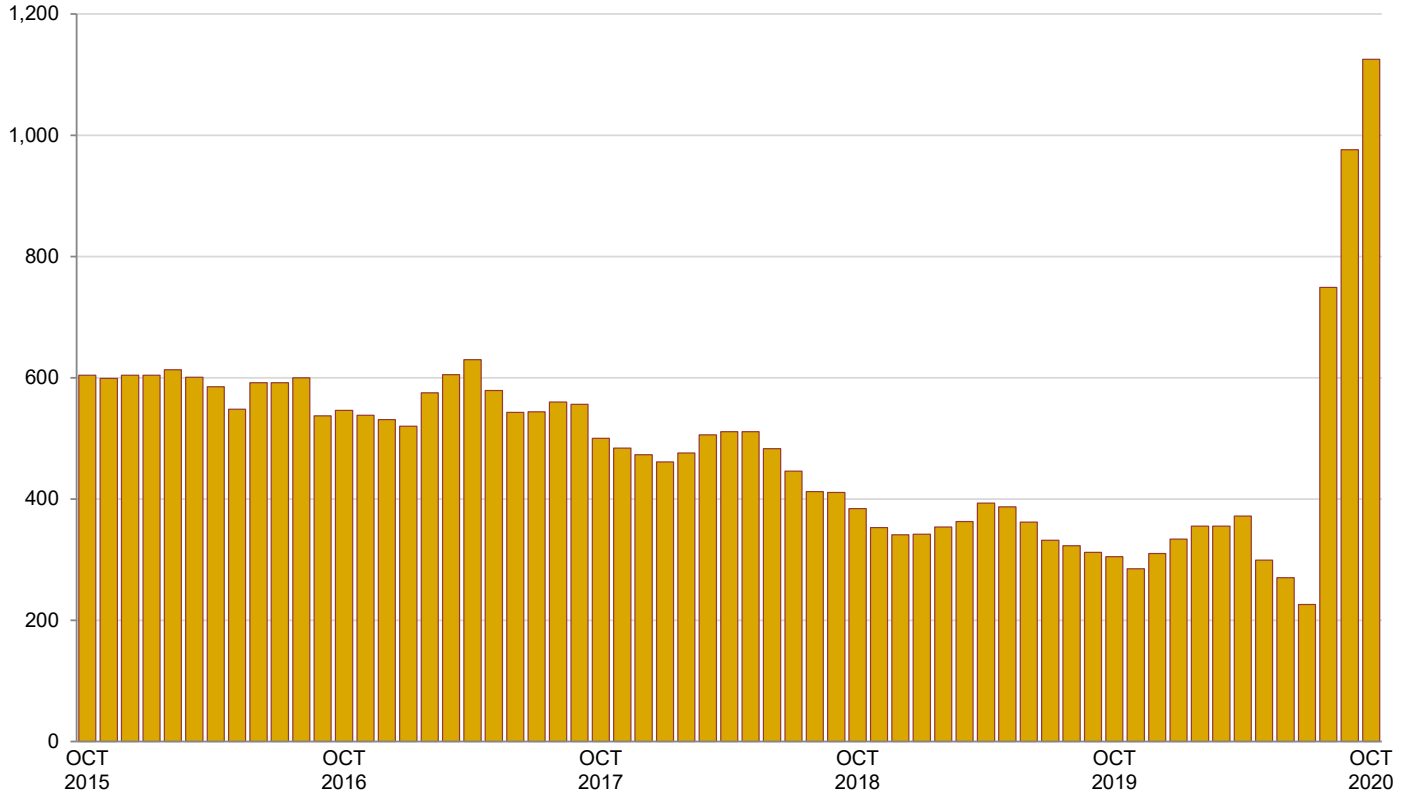
[Unassigned openings excluded from pie chart calculations]

[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

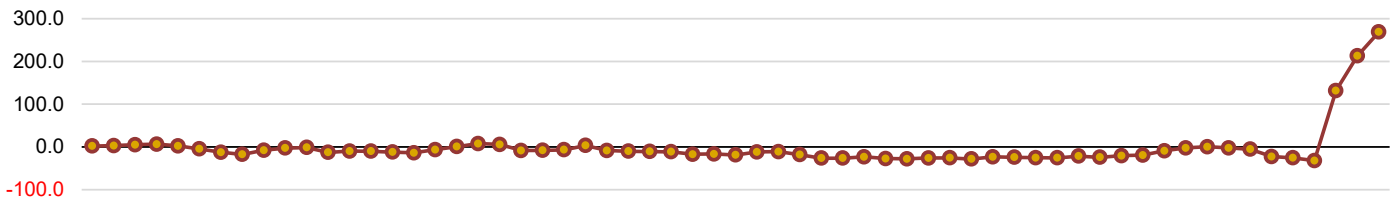
# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

REGION 4 ACTIVE RÉSUMÉS

[IN-STATE ACTIVE RÉSUMÉS]



## YEAR-OVER-YEAR PERCENT CHANGE IN ACTIVE RÉSUMÉS



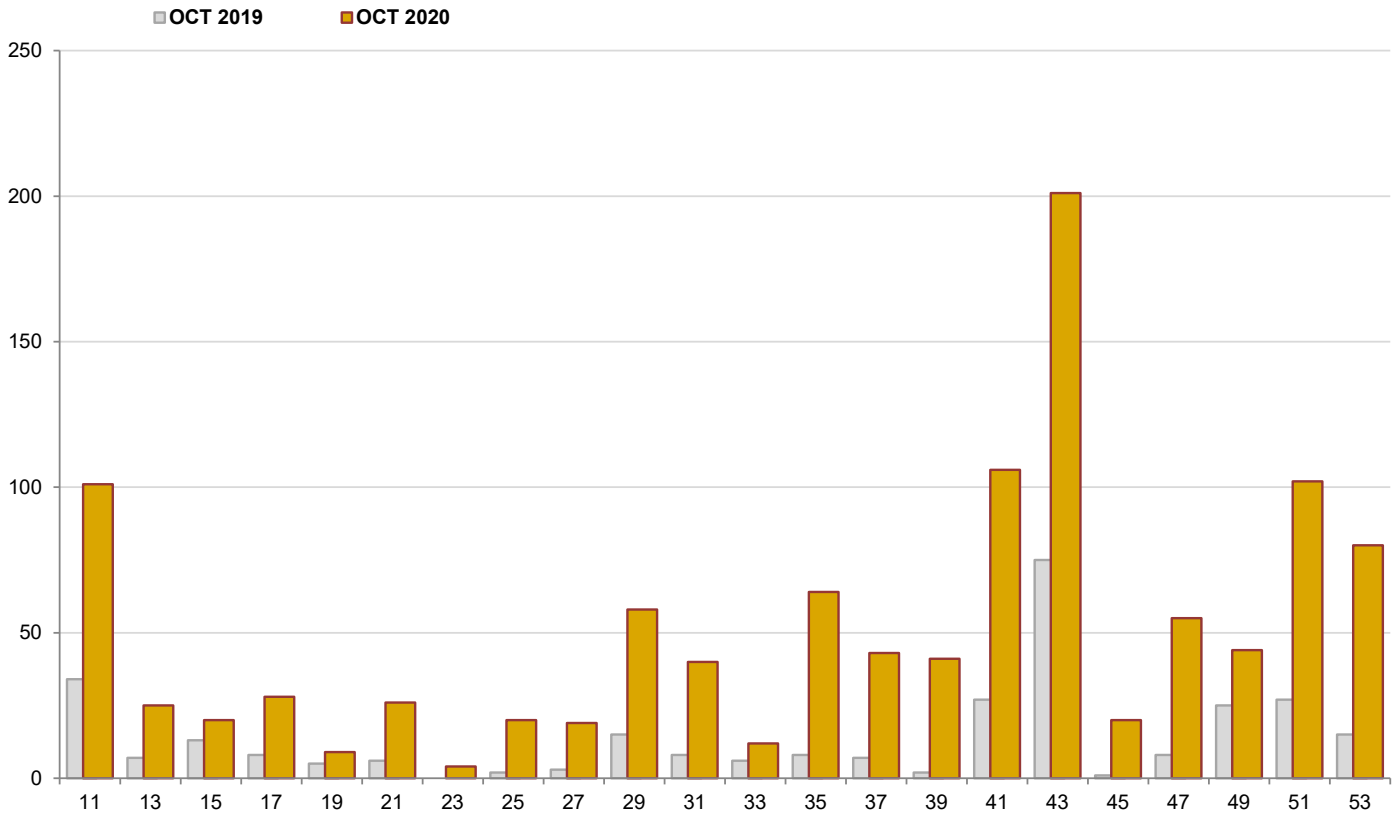
RECENT TREND	ACTIVE RÉSUMÉS	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG	12 MO MOV AVG	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG
MAY 2019	387	-6	-1.5	-124	-24.3	389	-10	-2.5	-121	-23.7
JUN 2019	362	-25	-6.5	-121	-25.1	379	-10	-2.6	-126	-25.0
JUL 2019	332	-30	-8.3	-114	-25.6	370	-9	-2.4	-127	-25.6
AUG 2019	323	-9	-2.7	-89	-21.6	362	-8	-2.2	-123	-25.4
SEP 2019	312	-11	-3.4	-99	-24.1	354	-8	-2.2	-119	-25.2
OCT 2019	305	-7	-2.2	-79	-20.6	347	-7	-2.0	-116	-25.1
NOV 2019	285	-20	-6.6	-68	-19.3	342	-5	-1.4	-110	-24.3
DEC 2019	310	+25	+8.8	-31	-9.1	339	-3	-0.9	-102	-23.1
JAN 2020	334	+24	+7.7	-8	-2.3	338	-1	-0.3	-93	-21.6
FEB 2020	355	+21	+6.3	+1	+0.3	338	0	0.0	-83	-19.7
MAR 2020	355	0	0.0	-8	-2.2	338	0	0.0	-71	-17.4
APR 2020	372	+17	+4.8	-21	-5.3	336	-2	-0.6	-63	-15.8
MAY 2020	299	-73	-19.6	-88	-22.7	329	-7	-2.1	-60	-15.4
JUN 2020	270	-29	-9.7	-92	-25.4	321	-8	-2.4	-58	-15.3
JUL 2020	226	-44	-16.3	-106	-31.9	312	-9	-2.8	-58	-15.7
AUG 2020	749	+523	+231.4	+426	+131.9	348	+36	+11.5	-14	-3.9
SEP 2020	976	+227	+30.3	+664	+212.8	403	+55	+15.8	+49	+13.8
<b>OCT 2020</b>	<b>1,125</b>	<b>+149</b>	<b>+15.3</b>	<b>+820</b>	<b>+268.9</b>	<b>471</b>	<b>+68</b>	<b>+16.9</b>	<b>+124</b>	<b>+35.7</b>

[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 ACTIVE RÉSUMÉS BY OCCUPATION GROUP

[IN-STATE ACTIVE RÉSUMÉS]



[SOC CODE] OCCUPATION GROUP	OCT 2019	SEP 2020	OCT 2020	M/M # CHG	M/M % CHG	Y/Y # CHG	Y/Y % CHG
[11] Management	34	82	101	+19	+23.2	+67	+197.1
[13] Business and Financial Operations	7	23	25	+2	+8.7	+18	+257.1
[15] Computer and Mathematical	13	18	20	+2	+11.1	+7	+53.8
[17] Architecture and Engineering	8	30	28	-2	-6.7	+20	+250.0
[19] Life, Physical, and Social Science	5	7	9	+2	+28.6	+4	+80.0
[21] Community and Social Service	6	21	26	+5	+23.8	+20	+333.3
[23] Legal	0	4	4	0	0.0	+4	---
[25] Educational Instruction and Library	2	19	20	+1	+5.3	+18	+900.0
[27] Arts, Design, Entertainment, Sports, and Media	3	16	19	+3	+18.8	+16	+533.3
[29] Healthcare Practitioners and Technical	15	47	58	+11	+23.4	+43	+286.7
[31] Healthcare Support	8	34	40	+6	+17.6	+32	+400.0
[33] Protective Service	6	9	12	+3	+33.3	+6	+100.0
[35] Food Preparation and Serving Related	8	50	64	+14	+28.0	+56	+700.0
[37] Building and Grounds Cleaning and Maintenance	7	37	43	+6	+16.2	+36	+514.3
[39] Personal Care and Service	2	30	41	+11	+36.7	+39	+1,950.0
[41] Sales and Related	27	89	106	+17	+19.1	+79	+292.6
[43] Office and Administrative Support	75	180	201	+21	+11.7	+126	+168.0
[45] Farming, Fishing, and Forestry	1	24	20	-4	-16.7	+19	+1,900.0
[47] Construction and Extraction	8	50	55	+5	+10.0	+47	+587.5
[49] Installation, Maintenance, and Repair	25	40	44	+4	+10.0	+19	+76.0
[51] Production	27	87	102	+15	+17.2	+75	+277.8
[53] Transportation and Material Moving	15	73	80	+7	+9.6	+65	+433.3
[55] Military Specific	0	3	4	+1	+33.3	+4	---
Unclassified	3	3	3	0	0.0	0	0.0
<b>TOTAL</b>	<b>305</b>	<b>976</b>	<b>1,125</b>	<b>+149</b>	<b>+15.3</b>	<b>+820</b>	<b>+268.9</b>

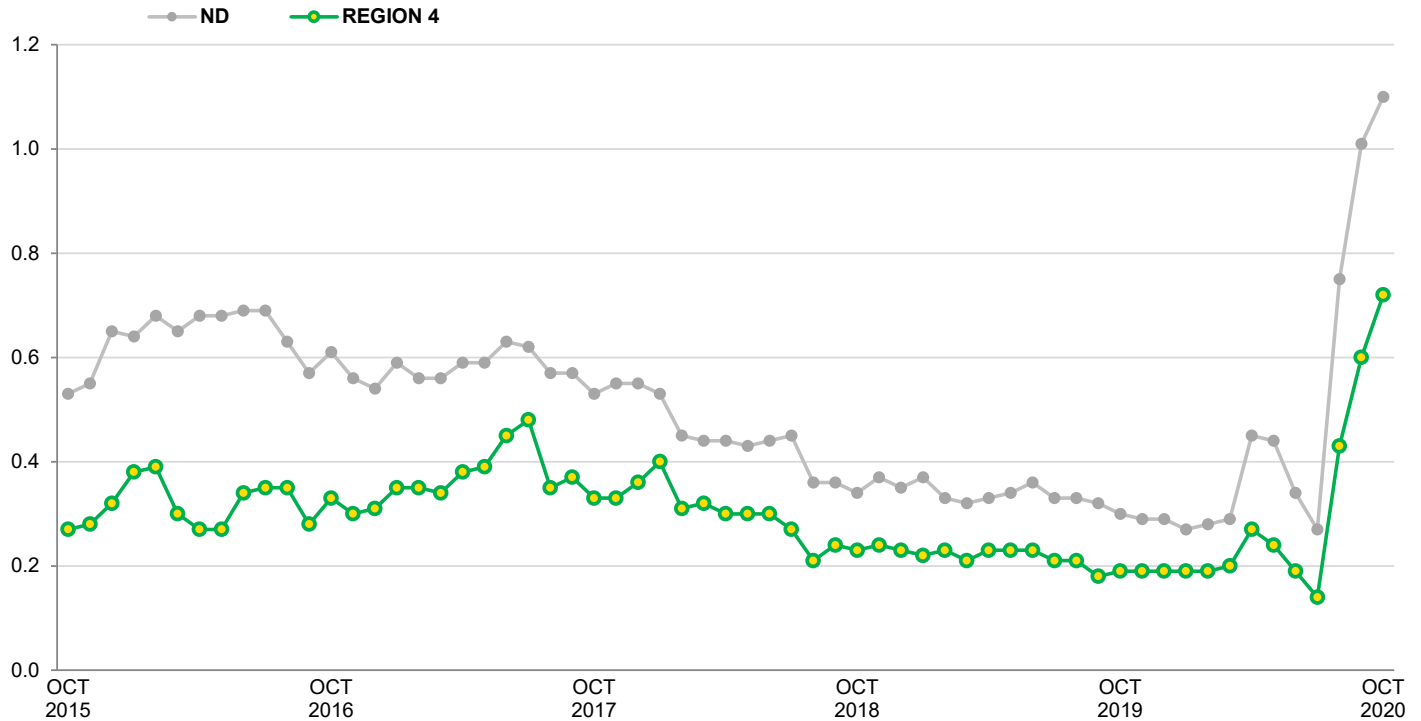
[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## REGION 4 ACTIVE RÉSUMÉS PER JOB OPENING

[IN-STATE ACTIVE RÉSUMÉS]

Active résumés per job opening is a rate of the number of in-state active résumés divided by job openings. Out-of-state résumés were excluded from this calculation. A rate less than one indicates more job openings than in-state active résumés; a rate greater than one indicates more in-state active résumés than job openings.



[SOC CODE] OCCUPATION GROUP	OCT 2019	SEP 2020	OCT 2020
[11] Management	0.40	1.21	1.58
[13] Business and Financial Operations	0.24	1.00	0.51
[15] Computer and Mathematical	0.32	0.64	0.91
[17] Architecture and Engineering	0.18	1.67	1.17
[19] Life, Physical, and Social Science	0.24	0.30	1.00
[21] Community and Social Service	0.21	0.95	2.00
[23] Legal	0.00	1.00	0.80
[25] Educational Instruction and Library	0.04	0.20	0.29
[27] Arts, Design, Entertainment, Sports, and Media	0.08	0.34	0.58
[29] Healthcare Practitioners and Technical	0.07	0.19	0.23
[31] Healthcare Support	0.21	0.65	0.65
[33] Protective Service	0.27	0.43	0.92
[35] Food Preparation and Serving Related	0.09	0.50	0.54
[37] Building and Grounds Cleaning and Maintenance	0.17	1.12	1.16
[39] Personal Care and Service	0.07	0.71	0.87
[41] Sales and Related	0.13	0.50	0.55
[43] Office and Administrative Support	0.59	1.35	1.75
[45] Farming, Fishing, and Forestry	0.06	0.80	0.74
[47] Construction and Extraction	0.11	1.28	1.57
[49] Installation, Maintenance, and Repair	0.34	0.53	0.53
[51] Production	0.31	0.87	0.92
[53] Transportation and Material Moving	0.07	0.30	0.50
<b>REGION 4</b>	<b>0.19</b>	<b>0.60</b>	<b>0.72</b>
<b>NORTH DAKOTA</b>	<b>0.30</b>	1.01	1.10

[Data are not seasonally adjusted and subject to revision. Dashes (---) indicate data not available.]



# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## OCCUPATION GROUPS AND REGION 4 AVERAGE WAGES

2019 AVG HRLY WAGE (\$)	[SOC CODE] OCCUPATION GROUP Sample Occupations
47.13	<b>[11] MANAGEMENT</b> Managers, Education Administrators, Farmers and Ranchers, Human Resource Managers
32.53	<b>[13] BUSINESS AND FINANCIAL OPERATIONS</b> Accountants, Auditors, Loan Officers, Tax Preparers
33.79	<b>[15] COMPUTER AND MATHEMATICAL</b> Computer Programmers, Computer and Network Administrators, Web Developers, Statisticians
38.20	<b>[17] ARCHITECTURE AND ENGINEERING</b> Engineers, Drafters, Architects, Surveyors
33.46	<b>[19] LIFE, PHYSICAL, AND SOCIAL SCIENCE</b> Biologists, Chemists, Economists
24.73	<b>[21] COMMUNITY AND SOCIAL SERVICE</b> Social Workers, Clergy, Counselors, Social and Human Service Assistants
42.41	<b>[23] LEGAL</b> Lawyers, Court Reporters, Judges, Magistrate Judges, Magistrates, Paralegal and Legal Assistants
27.80	<b>[25] EDUCATIONAL INSTRUCTION AND LIBRARY</b> Elementary School Teachers, Secondary School Teachers, Special Education Teachers, Librarians
22.54	<b>[27] ARTS, DESIGN, ENTERTAINMENT, SPORTS, AND MEDIA</b> Musicians and Singers, Photographers, Reporters and Correspondents, Umpires, Referees
---	<b>[29] HEALTHCARE PRACTITIONERS AND TECHNICAL</b> Physicians and Surgeons, Dentists, Pharmacists, Registered Nurses, EMTs and Paramedics, Chiropractors
16.64	<b>[31] HEALTHCARE SUPPORT</b> Home Health Aides, Medical Assistants, Medical Transcriptionists, Nursing Aides and Orderlies
24.55	<b>[33] PROTECTIVE SERVICE</b> Correctional Officers, Firefighters, Police and Sheriff's Patrol Officers, Lifeguards
12.66	<b>[35] FOOD PREPARATION AND SERVING RELATED</b> Cooks, Bartenders, Waiters and Waitresses, Counter Attendants, Dishwashers
14.47	<b>[37] BUILDING AND GROUNDS CLEANING AND MAINTENANCE</b> Janitors and Cleaners, Landscaping and Groundskeeping Workers, Maids and Housekeeping Cleaners
13.79	<b>[39] PERSONAL CARE AND SERVICE</b> Childcare Workers, Hairdressers, Hairstylists, Fitness Trainers, Personal and Home Care Aides
16.86	<b>[41] SALES AND RELATED</b> Cashiers, Retail Salespersons, Insurance Sales Agents, Telemarketers
18.99	<b>[43] OFFICE AND ADMINISTRATIVE SUPPORT</b> Secretaries and Administrative Assistants, Office Clerks, Receptionists, Tellers
21.73	<b>[45] FARMING, FISHING, AND FORESTRY</b> Farmworkers and Laborers, Graders and Sorters of Agricultural Products, Hunters and Trappers
23.76	<b>[47] CONSTRUCTION AND EXTRACTION</b> Carpenters, Electricians, Plumbers, Roofers, Oil and Gas Roustabouts
23.32	<b>[49] INSTALLATION, MAINTENANCE, AND REPAIR</b> Automotive Body Repairers, Mechanics, Electrical Power-Line Installers, Wind Turbine Service Technicians
20.35	<b>[51] PRODUCTION</b> Assemblers and Fabricators, Machinists, Tool and Die Makers, Welders, Cutters, Solderers, Brazers
19.86	<b>[53] TRANSPORTATION AND MATERIAL MOVING</b> Airline Pilots, Bus Drivers, Truck Drivers, Industrial Truck and Tractor Operators, Packers and Packagers
---	<b>[55] MILITARY SPECIFIC OCCUPATIONS</b> Aircrew Officers, Infantry, Radar and Sonar Technicians, Special Forces

[Dashes (---) indicate data not available.]

## NOTES

This report was produced either in whole or in part with Department of Labor-funded Workforce Information Grants (WIGS).

### BACKGROUND

The Online Job Openings Report (OJOR) is a monthly summary of North Dakota job openings and active résumés and provides a timely overview of the latest supply/demand dynamic. The report involves the collection, processing, and dissemination of open and available online job openings posted by employers and active online résumés posted by job candidates. Job openings by industry and occupational groups and active résumés by occupational groups are published at statewide and regional levels. County data are only published at aggregate total levels. Additionally, supply/demand calculations for various geographies and occupational groups are available. The OJOR is generally published the first working Wednesday of the month following the reference month (i.e. January data published the first working Wednesday in February), though exceptions may occur.

### METHODOLOGY AND COVERAGE

The Job Service North Dakota online labor exchange system is the underlying source for the OJOR. The data are a combination of local openings brought into the system either internally or externally. An internal job opening is submitted directly to the labor exchange system by either local office staff or authorized local employers. An external job opening is 'spidered' into the system from outside online job sites including corporate, educational institution, newspaper, government, private job board, and recruiter sites. Coverage is limited to jobs posted online. Job openings advertised strictly through word-of-mouth, radio, television, local print-only newspapers, outdoor signage, or any other non-online means are not included. Keep in mind, online job openings and active résumés are self-reported by the employer and job seeker, respectively, so accuracy cannot necessarily be guaranteed. Every effort is made to ensure the OJOR is constructed using deduplicated data. The deduplication process involves the systematic analysis of key fields of each opening, such as company name, job title/description, and location, against all openings, flagging potential duplicate matches. Active résumés are deduplicated against the user name and occupational code fields. An analyst reviews and eliminates legitimate duplicates.

The OJOR is not subject to the typical sampling error and non-response error components associated with most statistical surveys. Non-sampling error sources would include population under-coverage due to missing a portion of the targeted population (e.g. a large Internet job board), and over-coverage due to the inability to fully eliminate duplicate job openings. Additional potential sources of non-sampling error would include occupational and/or geographic coding errors which would affect the proper classification of individual job openings.

Industry coding is done at the 2-digit level of the latest North American Industry Classification System (NAICS). Every month, an analyst reviews and updates a master employer listing of businesses with job openings. If the employer cannot be coded to a 2-digit level, it is designated as 'unclassified.' It should be noted that every five years or so the NAICS goes through a federal review process where codes are added, deleted, or modified.

Occupational coding is done at the 6-digit level of the latest Standard Occupational Classification (SOC) system. If a job opening cannot be coded at the 6-digit level, then every effort is made to code it to a 2-digit occupational group. If the opening cannot be coded to either, it is designated as 'unclassified.' It should be noted that every ten years or so the SOC system goes through a federal review process where codes are added, deleted, or modified.

The geographic coding for an internal opening is determined by information submitted directly to the labor exchange system by either local office staff or authorized local employers. An external opening is coded against location information provided in the original posting, if available.

### TERMS AND CONCEPTS

**ACTIVE RÉSUMÉS.** Active résumés are all online résumés that have been created or otherwise modified during the reference period. This figure includes résumés posted no more than 90 days prior but still active during the reference period, as well as new résumés. Active résumés may include those created by out-of-state candidates. Candidates may post multiple online résumés so active résumés should not be interpreted as an individual candidate count. Active résumés are not necessarily an indicator of unemployment since candidates posting résumés may or may not be unemployed.

**ACTIVE RÉSUMÉS PER JOB OPENING.** North Dakota's state-level and substate rates of active résumés per job opening are calculated by taking the number of in-state active résumés and dividing by job openings. In order to get a more localized measure of potential labor supply, only in-state active résumés (i.e. résumés tied to a North Dakota address) were used to calculate this rate; out-of-state active résumés are excluded from this calculation. A rate less than one indicates more job openings than in-state active résumés; a rate greater than one indicates more in-state active résumés than job openings.

**INDUSTRY DATA.** Industries are based on the latest NAICS. Employers are coded to the 2-digit NAICS level whenever possible.

# OCTOBER 2020 ONLINE JOB OPENINGS REPORT

## NOTES

### TERMS AND CONCEPTS cont'd

**JOB OPENINGS.** Job openings include all open and available online openings during the reference period. This figure may include openings posted no more than 90 days prior but still active during the reference period, as well as new openings.

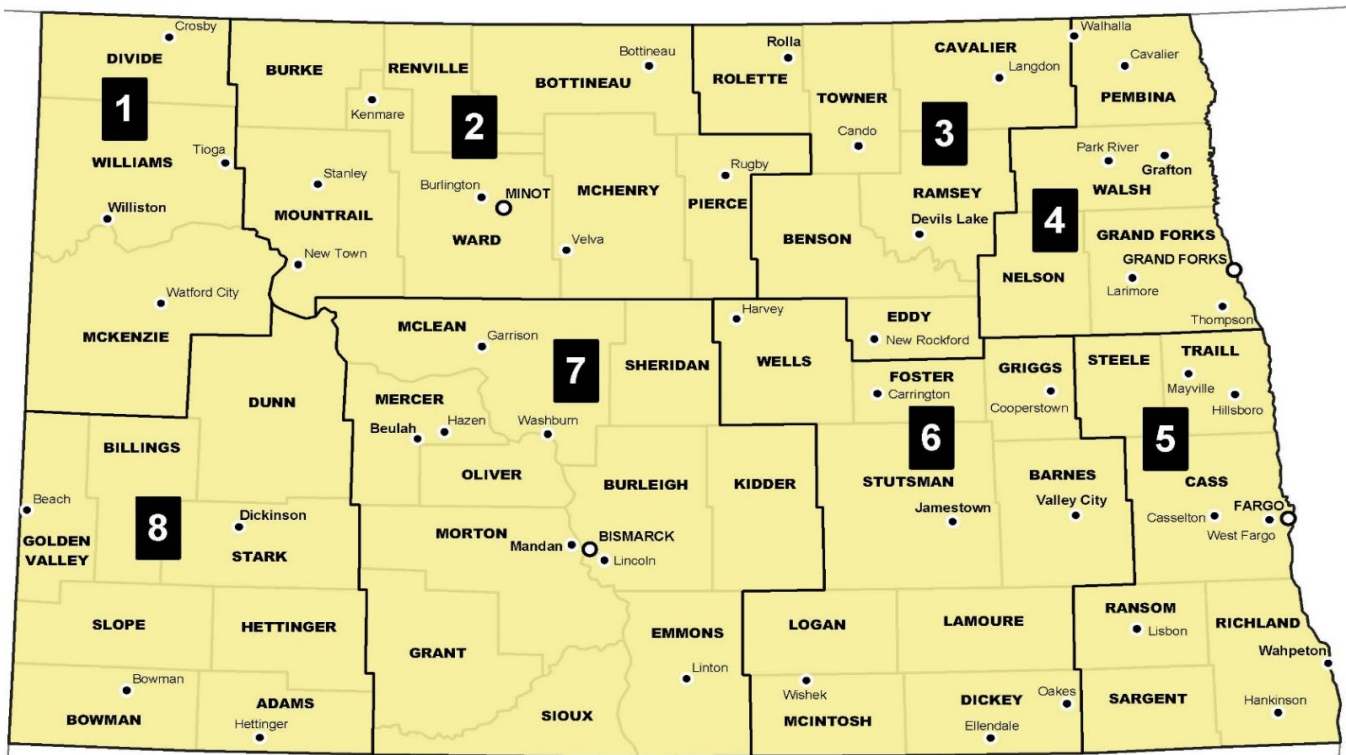
**JOB OPENINGS RATE.** The job openings rate is the percentage of all jobs in the economy open and available and North Dakota's is calculated by taking the number of job openings (unfilled jobs) divided by total nonfarm employment (filled jobs) from the Current Employment Statistics (CES) program plus job openings. The rate of unfilled jobs is an important measure of the unmet demand for labor, which paints a more complete picture of the state's labor market than solely looking at the unemployment rate, a measure of the excess supply of labor. A higher rate is an indicator of increased demand from employers resulting in more opportunities for job seekers. The U.S. rate is calculated using data from the Job Openings and Labor Turnover Survey (JOLTS) and CES program. U.S. job openings typically lag two months, therefore the most recent rate will lag two months.

**OCCUPATIONAL DATA.** Occupational groups are based on the latest SOC system. Openings and résumés are coded to the 6-digit SOC level whenever possible. Data are aggregated to the major occupational group level.

**REFERENCE PERIOD.** The OJOR collects data using a mid-month reference period (the week that includes the 12th of the month), which provides consistency when incorporating data from U.S. Bureau of Labor Statistics (BLS) sources.

**REGIONAL DATA.** The eight North Dakota regions are made up of groupings of counties around a regional city center that provides a majority of the services and exhibits the greatest economic influence. While the regional reports are not as comprehensive as the statewide report, they do provide some local detail not otherwise available. Job openings data are geographically coded based on worksite location. Active résumés are geographically coded based on the residential address of the candidate.

Below is a geographic outline of North Dakota's eight regions.



**TYPICAL ENTRY-LEVEL EDUCATION.** Typical entry-level education describes the level of education that most workers need to enter an occupation or occupational group, and takes into consideration advertised education requirement preferences. The Labor Market Information Center is able to assign a typical entry-level education to most job openings, but some are tagged as 'unassigned' due to missing or incomplete occupational codes. Keep in mind, an opening's typical entry-level education assignment may differ from employers' advertised education requirements, though most match. Mismatches commonly occur due to either missing education requirements from the employer's job ad or education inflation where an employer advertises for more education than is typically needed for an occupation. Using the typical entry-level education framework provides for consistency across occupations regardless of an employer's advertised preference. For instance, all janitor openings are coded with the same typical entry-level education (no educational credential) regardless if one out of ten employers has a preference for a candidate with a Bachelor's degree.

## NOTES

### TERMS AND CONCEPTS cont'd

The typical entry-level education categories are:

- Doctoral or professional degree: Completion of a doctoral degree (Ph.D.) usually requires at least 3 years of full-time academic work beyond a bachelor's degree. Completion of a professional degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree.
- Master's degree: Completion of this degree usually requires 1 or 2 years of full-time academic study beyond a bachelor's degree.
- Bachelor's degree: Completion of this degree generally requires at least 4 years, but not more than 5 years, of full-time academic study beyond high school.
- Associate's degree: Completion of this degree usually requires at least 2 years but not more than 4 years of full-time academic study beyond high school.
- Postsecondary nondegree award: These programs lead to a certificate or other award, but not a degree. The certificate is awarded by the educational institution and is the result of completing formal postsecondary schooling. Certification, issued by a professional organization or certifying body, is not included here. Some postsecondary nondegree award programs last only a few weeks, while others may last 1 to 2 years.
- High school diploma or equivalent: This category indicates the completion of high school or an equivalent program resulting in the award of a high school diploma or an equivalent, such as the General Education Development (GED) credential.
- No formal educational credential: This category signifies that a formal credential issued by an educational institution, such as a high school diploma or postsecondary certificate, is not typically needed for entry into the occupation.

**TYPICAL TRAINING.** Typical training describes any additional training or preparation that is typically needed, once employed, to attain competency in the skills needed in an occupation or occupational group. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. The Labor Market Information Center is able to assign a typical training category to most job openings, but some are tagged as 'unassigned' due to missing or incomplete occupational codes. Keep in mind, an opening's typical training assignment may differ from employers' advertised training requirements, though most match. Mismatches commonly occur due to either missing training requirements from the employer's job ad or where an employer advertises for more training than is typically needed for an occupation. Using the typical training framework provides for consistency across occupations regardless of an employer's advertised preference. For instance, all janitor openings are coded with the same typical training (short-term on-the-job training) regardless if one out of ten employers has a preference for long-term on-the-job training.

The typical training categories are:

- Internship/residency: An internship or residency is a formal period of training during which individuals work under the supervision of experienced workers in a professional setting, such as a hospital. Internships and residencies occur after the completion of a formal postsecondary degree program and generally are required for state licensure or certification in fields including medicine, counseling, and architecture. During an internship or residency, trainees may be restricted from independently performing all of the functions of the occupation.
- Apprenticeship: An apprenticeship is a formal relationship between a worker and sponsor that consists of a combination of on-the-job training and related occupation-specific technical instruction in which the worker learns the practical and theoretical aspects of an occupation. Apprenticeship programs are sponsored by individual employers, joint employer-and-labor groups, and employer associations. The typical apprenticeship program provides at least 144 hours of occupation-specific technical instruction and 2,000 hours of on-the-job training per year, over a 3- to 5-year period.
- Long-term on-the-job training: More than 12 months of on-the-job training or, alternatively, combined work experience and formal classroom instruction, is needed for workers to develop the skills to attain competency. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This category also includes employer-sponsored training programs. Such programs include those offered by fire academies and schools for air traffic controllers. In other occupations—nuclear power reactor operators, for example—trainees take formal courses, often provided at the jobsite, to prepare for the required licensing exams. Also included in this category are occupations in which workers typically need to possess a natural ability or talent—including musicians and singers, athletes, dancers, photographers, and actors—and that ability or talent must be cultivated over several years, sometimes in a nonwork setting. This category excludes apprenticeships.
- Moderate-term on-the-job training: More than 1 month and up to 12 months of combined on-the-job experience and informal training is needed for workers to develop the skills needed to attain competency. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This category also includes employer-sponsored training programs.
- Short-term on-the-job training: The skills needed for a worker to attain competency in an occupation can be acquired during 1 month or less of on-the-job experience and informal training. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This category also includes employer-sponsored training programs.
- No training: There is no additional occupation-specific training or preparation typically required to attain competency in the occupation.

## NOTES

### TERMS AND CONCEPTS cont'd

**UNEMPLOYED PER JOB OPENING.** North Dakota's state-level and substate rates of unemployed per job opening are calculated by taking the number of unemployed persons from the Local Area Unemployment Statistics (LAUS) program and dividing by job openings. A rate less than one indicates more job openings than local labor supply; a rate greater than one indicates more local labor supply than job openings. North Dakota unemployment data typically lag one month, therefore the most recent rates will lag one month. The U.S. rate is calculated using data from the JOLTS and the Current Population Survey (CPS) from the BLS. U.S. job openings typically lag two months, therefore the most recent rate will lag two months.

**UNEMPLOYMENT DATA.** The unemployment data used in this report come from the CPS and LAUS programs. Both programs provide data on the unemployed and are used to calculate the rate of unemployed per job opening. The unemployed are defined as those 16 years of age and older who were unemployed but actively seeking and available for work within the last month.

**WAGE DATA.** The wage data are the latest available from the Occupational Employment Statistics (OES) program. OES wage data provide a point-in-time snapshot of wage levels for workers already employed in more than 800 SOC occupations or occupational groups. In this report, average hourly wages should not be interpreted as an advertised hiring wage since most employers don't post wages in job ads. Instead, OES wages are used as a proxy to estimate the wage distribution of job openings.

### DATA INTERPRETATION

While the top-line numbers get the most attention, the emphasis in interpreting the data should focus on the trend over time. Since the data are not seasonally adjusted, the most appropriate comparison for any month should be the same month one year earlier.

Job openings data reflect a relative demand for labor. Job openings include all open and available online openings. It should not be assumed that the published job openings number is the entirety of the job openings market. There is a segment of the job openings market that relies solely on means other than online to recruit workers. Those openings are not captured in the OJOR.

Active résumés data reflect a relative supply of labor. Active résumés include all online résumés that have been created or otherwise modified by job seekers with a desire to work in North Dakota. Therefore, a segment of active résumés belong to out-of-state candidates. Candidates may post multiple online résumés so active résumés should not be interpreted as an individual candidate count. Active résumés are not necessarily an indicator of unemployment since candidates posting résumés may or may not be unemployed. It should not be assumed that the published active résumés number is the entirety of the potential labor supply. Excluded from the active résumés count are unemployed individuals who have not created an online résumé or, similarly, casual job seekers who browse job openings but do not create an online résumé.

Supply/demand calculations are used to reconcile the relationship between labor market demand (e.g. job openings) and labor market supply (e.g. active résumés, unemployed). The results highlight the relative slack in the labor market for occupational groups and select geographies. Supply/demand rates (e.g. active résumés per job opening, unemployed persons per job opening) with a result less than one indicate a greater need for workers in an occupational group or area. In other words, there's not enough supply (workers) to keep up with demand (job openings). The opposite is true when supply/demand rates exceed one. Of course, such an analysis only provides a general idea of where excess demand exists; it does not necessarily indicate a match if a candidate doesn't have the education, skills, or experience to get hired. Additionally, caution should be exercised when interpreting supply/demand calculations for small occupational groups and geographies, which exhibit much more volatility and may skew a user's interpretation of the labor market situation. Extremely high or low calculations could be masking a relatively small labor market supply/demand dynamic.

In conjunction with other pieces of labor market information (e.g. projections, wages, skill requirements, etc.), OJOR data can be used by students, educators, and counselors to explore potential career interests. Job seekers can use the data to help focus job searches and highlight occupational groups and/or geographic areas with the greatest opportunities or toughest competition. The business community, economic developers, and policy makers can use the data to track trends in the labor market, potentially highlighting labor imbalances. This can be especially helpful if a business is looking to expand or relocate. Economic developers and policy makers can use the data to gauge the general health of the economy and look for opportunities to maximize labor market supply and demand.