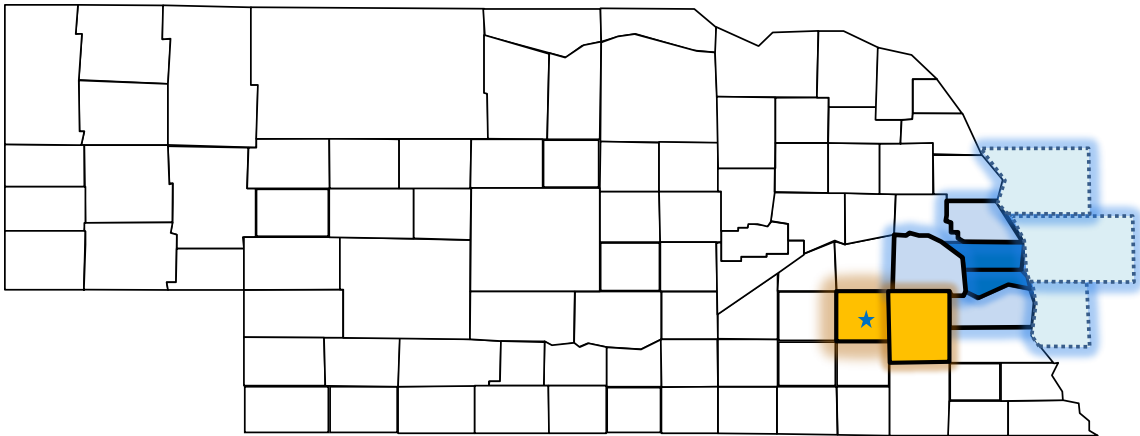# High Technology Occupations and Industries
Seward, Nebraska Laborshed's Metropolitan Counties
(Lincoln & Omaha Metropolitan Counties)

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Executive Summary

The information provided in this report indicates the Seward, Nebraska Laborshed's Metropolitan Counties (Cass, Douglas, Lancaster, Sarpy, Saunders, Seward, and Washington Counties in Nebraska plus Harrison, Mills, and Pottawattamie Counties in Iowa[1]) include a diverse mix of technology based industries employing a large number of workers with skills required by technology based companies[2]. The area contains several postsecondary education institutions offering a variety of technology training programs. A prospective new technology based employer is likely to find substantial numbers of workers living within the Seward, Nebraska Laborshed's Metropolitan Counties with the skills required by their business. Some of the pertinent findings of the report include:

- In 2012, an estimated 6,520 technology based establishments employed a total of approximately 97,216 workers in the Lincoln and Omaha Metropolitan Statistical Areas (MSAs). In the Lincoln MSA, 1,724 technology based establishments employed a total of 22,479 total workers. In the Omaha MSA, 4,796 technology based establishments employed 74,737 workers.

- In 2012, an estimated 37,110 technology workers were employed within the Seward, Nebraska Laborshed's Metropolitan Counties. Establishments in the Lincoln MSA employed an estimated 8,390 technology workers and establishments in the Omaha MSA employed an estimated 28,720 technology workers;

- From 2008 to 2012, the total number of workers in the Seward Nebraska Laborshed's metropolitan counties high technology labor industries was stable[3].

- In 2010, 1,752 or 56.1 percent of the primary jobs held by Seward city residents and 4,608 or 61.7 percent of the primary jobs held by Seward County residents were located outside Seward County. This confirms a large number of Seward County residents are commuting to jobs in other counties.

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[1] Seward and Lancaster Counties make up the Lincoln Metropolitan Statistical Area. The Omaha Metropolitan Statistical Area consists of Cass, Douglas, Sarpy, Saunders, and Washington Counties in Nebraska and Harrison, Mills, and Pottawattamie Counties in Iowa. In 2010, 14.2 percent of Seward County workers lived in Lancaster County and 1.9 percent lived in Douglas County. Also in 2010, 34.2 percent of Seward County residents commuted to jobs in Lancaster County, 5.6 percent commuted to jobs in Douglas County, and 1.3 percent commuted to jobs in Sarpy County.
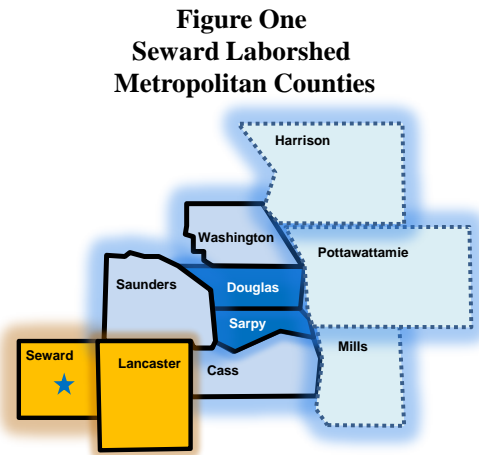
[2] For this study, technology based companies are defined as those whose workforces include above average numbers of computer and information occupations such as software engineers and web developers; technical sales occupations; and customer service occupations.

[3] Data suppression by the U.S. Department of Labor does not allow reliable calculation of changes in the number of workers in these industries over the five-year period 2008–2012.

High technology labor industries Sector Structure and Employment
for the Seward (Seward County) Labor Area

This report presents selected workforce-related data that provide insights into the workforce and structure of the high technology labor industries sector in Seward County and the nearby metropolitan areas.

Figure One
Seward Laborshed
Metropolitan Counties

In reviewing the data presented in this report, it will be evident that the Seward, Nebraska Laborshed's Metropolitan Counties contain a sizeable pool of technology based industries and workers to provide for the labor requirements of additional employers in the area, both in the near term and over the long run. Data presented in this report include tables on workforce, establishments, and pay for Seward County and the nine nearby metropolitan counties[4] which make up the potential laborshed's area for the city of Seward. Figure One includes a map outlining the geographic area which has been defined as the Seward, Nebraska Laborshed's Metropolitan Counties.

An important resource for new or expanding businesses is a readily available supply of skilled workers. Whether an employer requires 1 or 1,000 workers, they need to have confidence there will be a sufficient number of workers available to meet their labor requirements. This report is provided as a key analytical tool to identify and quantify the number of high technology labor industries workers in the Seward, Nebraska Laborshed's Metropolitan Counties.

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[4] The Omaha MSA has been included in this study because, in 2010, 5.6 percent (417) of the primary jobs held by Seward County residents were located in Douglas County and 1.9 percent (102) of the primary jobs in Seward County were held by residents of Douglas County.

Labor Force and Workforce

As shown in Table One, total employment of people living in the Lincoln and Omaha MSAs; grew from 595,235 in 2007 to 611,506 people in 2012; this was a gain of 2.7 percent. During the same period, the area's workforce (number of jobs within the area) increased by 0.3 percent from 605,014 to 606,901. This suggests the number of locally available workers grew faster than the number of job openings within the area.

Table One
Labor Force and Work Force
Lincoln and Omaha Metropolitan Statistical Areas, 2007–2012

	2007	2008	2009	2010	2011	2012	% Change 2007–2012
Labor force	614,990	625,578	619,805	621,971	629,934	638,245	3.8
Employment	595,235	604,056	589,710	591,082	600,094	611,506	2.7
Unemployment	19,755	21,522	30,095	30,889	29,840	26,739	35.4
Unemployment rate	3.2	3.4	4.9	5	4.7	4.2	NA
Work Force	605,014	611,138	595,886	592,393	595,079	606,901	0.3

Source: U.S. Department of Labor, Quarterly Census of Employment and Wages, **www.bls.gov/cew/data.htm**.

Technology Occupations and Wages

Table Two provides 2012 Lincoln and Omaha MSA job and wage data for the sixteen (16) technology occupations selected for this study. Workers in these occupations possess skills important to technology based firms.

In 2012, 8,390 workers in the Lincoln MSA were employed in one of the sixteen technology occupations, with 5,070 in occupations requiring computer or information skills and 3,320 in occupations requiring technical customer service or sales skills. In the same year, 28,680 workers in the Omaha MSA were employed in these same sixteen (16) occupations, with 17,040 employed in occupations requiring computer or information skills and 11,640 in occupations requiring technical customer service or sales skills.

As shown in Table Two, wages in the Omaha MSA were consistently higher for technology occupations than in the Lincoln MSA. Customer service representatives had the lowest average wages in both of the metropolitan areas.

Table Two
Selected Technology Employment & Wages by
Standard Occupational Classification (SOC) Codes,
Lincoln & Omaha Metropolitan Statistical Areas, 2012

SOC Codes	NAICS Category	Employment		Average Annual Wage	
		Lincoln MSA	Omaha MSA	Lincoln MSA	Omaha MSA
Computer and Information Skills					
15-1111	Computer and Information Research Scientists	-d-	40	-d-	$86,420
15-1121	Computer Systems Analysts	520	2,310	$61,540	$73,740
15-1122	Information Security Analysts	50	410	$71,670	$76,530
15-1131	Computer Programmers	450	2,210	$64,000	$74,060
15-1132	Software Developers, Applications	1,140	2,850	$68,370	$76,490
15-1133	Software Developers, Systems Software	510	1,290	$61,360	$84,210
15-1134	Web Developers	170	510	$49,170	$59,500
15-1141	Database Administrators	120	690	$65,990	$77,640
15-1142	Network and Computer Systems Administrators	800	2,620	$60,230	$73,660
15-1143	Computer Network Architects	100	900	$71,510	$90,180
15-1151	Computer User Support Specialists	940	1,800	$43,850	$49,150
15-1152	Computer Network Support Specialists	170	780	$57,220	$70,930
15-1199	Computer Occupations, All Other	100	570	-d-	$75,740
17-2061	Computer Hardware Engineers	-d-	100	-d-	$84,830
	Total	**5,070**	**17,080**	**NA**	**NA**
Sales and Customer Service					
41-4011	Sales Representatives, Wholesale and High Technology Labor Industries, Technical and Scientific Products	190	980	$82,490	$88,650
43-4051	Customer Service Representatives	3,130	10,660	$26,820	$31,550
	Total	**3,320**	**11,640**	**NA**	**NA**

-d- Values suppressed by U.S. Department of Labor.
NA Not Available
Source: U.S. Department of Labor, Occupational Employment Statistics (OES) Survey, **www.bls.gov/oes**.

Total Private Employment by Industry

Table Three shows employment by industry for the Lincoln MSA, the Douglas and Sarpy County portions of the Omaha MSA, and the remaining seven (7) Omaha MSA counties reported as a whole. In 2012, there were an estimated 606,901 private sector jobs in the combined Lincoln and Omaha MSA's.

As shown in Table Three, Douglas and Sarpy County, Nebraska contain between 30.3 percent (Natural Resources and Mining) and 93.5 percent (Professional and Business Services) of all the wage and salary jobs in the Omaha MSA. Excluding the natural resources and mining sector, Douglas and Sarpy County, Nebraska contain at least 83.4 percent of the jobs in the remaining Omaha MSA sectors. This is important because a large number of Seward County residents commute to Douglas or Sarpy County for their primary jobs and these two counties are major sources of workers for jobs located in Seward County.

Table Three
Employment, Total and by Economic Sector, 2012
Lincoln and Omaha Metropolitan Statistical Areas (MSA) & Selected Counties,

| Economic Sector | Lincoln MSA | Omaha MSA | | Total Omaha & Lincoln MSAs |
	Seward & Lancaster Counties	Douglas & Sarpy Counties	Remainder of Omaha MSA Counties	
Goods-Producing	**21,234**	**42,179**	**11,665**	**75,078**
Natural Resources and Mining	704	415	954	2,073
Construction	7,170	17,518	3,395	28,083
Manufacturing	13,360	24,245	7,316	44,921
Service-Providing	**109,637**	**287,244**	**40,540**	**437,421**
Trade, Transportation, and Utilities	31,756	74,752	14,151	120,659
Education and Health Services	23,067	56,420	9,073	88,560
Leisure and Hospitality	16,314	37,299	8,219	61,832
Financial Activities	12,054	34,116	2,396	48,566
Information	2,120	10,642	797	13,559
Other Services	5,919	11,371	1,708	18,998
Professional and Business Services	18,407	62,645	4,061	85,113
Government	**32,861**	**48,990**	**12,551**	**94,402**
Total Work Force	**163,732**	**378,413**	**64,756**	**606,901**

Source: U.S. Department of Labor, Quarterly Census of Employment and Wages, **www.bls.gov/cew/data.htm**.

Technology Industries, Establishments, and Employment

The technology based industries selected for this report are shown in Table Four. Workforces in the industries in Table Four have higher that average percentages of technology workers. Also shown in Table Four are the estimated 2012 numbers of establishments and private employment for the Lincoln and Omaha MSAs.

Table Four
Selected Industries with High Percent Employment of
Selected Technology Occupations by
North American Industrial Classification System (NAICS) Codes,
Lincoln & Omaha Metropolitan Statistical Areas (MSA), 2012

NAICS Codes	NAICS Industry	Establishments		Employment	
		Lincoln	Omaha	Lincoln	Omaha
221	Utilities	9	28	218[a]	1,146
334	Computer and electronic product high technology labor industries	13	26	2,192	776
443	Electronics and appliance stores	61	157	711	1,312
454	Nonstore retailers	51	118	905	2,067[b]
511	Publishing industries, except internet	36[a]	89	836[a]	2,622
517	Telecommunications	28[a]	101	600[a]	1,163
518	Data processing, hosting and related services	13	70	108	4,657[b]
519	Other information services	14[a]	28	86[a]	613
523	Securities, commodity contracts, investments	129	311	-d-	2,934
524	Insurance carriers and related activities	321	842	5,925	15,164
54	Professional and technical services	919	2,717	8,750	29,519[b]
55	Management of companies and enterprises	130	309	2,148	12,764[b]
	Total	**1,724**	**4,796**	**22,479**	**74,737**

[a] Lincoln MSA values suppressed by U.S. Department of Labor; values reported are for Lancaster County, Nebraska only.

[b] Omaha MSA values suppressed by U.S. Department of Labor; values reported are for Douglas and Sarpy Counties in Nebraska only.

-d- Values suppressed by U.S. Department of Labor.

Source: U.S. Department of Labor, Quarterly Census of Employment and Wages, **www.bls.gov/cew/data.htm**.

U.S. Department of Labor suppression of employment data to prevent disclosure of proprietary data makes it difficult to determine if jobs in technology based industries located in the Lincoln and Omaha MSA grew between 2008 and 2012. Data in Table Five suggest a slight decline during the recession of 2007 to 2009 with a return to prerecession levels by 2012.

Table Five
Selected Industries with High Percent Employment of
Selected Technology Occupations by
North American Industrial Classification System (NAICS) Codes,
Lincoln & Omaha Metropolitan Statistical Areas (MSA), 2008–2012

NAICS Code	NAICS Industry	2008	2009	2010	2011	2012
221	Utilities	1,486	1,654	1,371	1,370	1,364
334	Computer and electronic product manufacturing	3,589	3,111	3,209	3,053	2,968
443	Electronics and appliance stores	2,297	2,077	2,100	2,003	2,023
454	Nonstore retailers	3,762	3,011	3,160	2,922	2,972
511	Publishing industries, except internet	4,204	3,492	3,335	3,385	3,458
517	Telecommunications	2,528	2,531	2,014	2,016	1,763
518	Data processing, hosting and related services	4,970	4,625	4,558	4,754	4,765
519	Other information services	191	221	563	563	699
523	Securities, commodity contracts, investments	3,016	3,189	3,138	2,987	2,934
524	Insurance carriers and related activities	22,553	22,294	21,684	21,216	21,089
54	Professional and technical services	35,061	34,074	34,381	37,036	38,269
55	Management of companies and enterprises	14,165	14,292	15,294	13,699	14,912
	Total	**97,822**	**94,571**	**94,807**	**95,004**	**97,216**

Source: Employment numbers are estimates calculated by Dr. Ken Lemke, Nebraska Public Power District using data from the U.S. Department of Labor, Quarterly Census of Employment and Wages, **www.bls.gov/cew/data.htm**.

Commuting Patterns

Table Six provides data from the 2010 U.S. Census, Local Employment Dynamics Program, showing commuting patterns for workers living in the city of Seward and Seward County. Data in Table Five indicate a significant number (and percentage) of residents in Seward and Seward County commuted outside of the county for employment. In the 2010, 1,752, or 56.1 percent of primary jobs held by residents of Seward were located in other counties. Also in 2010, 4,608 (61.7 percent) of the primary jobs held by Seward County residents were located in other counties. Lancaster County provided the largest number of primary jobs to the city of Seward (980) and Seward County (2,555) residents commuting to jobs outside Seward County. Douglas County provided the second largest number of jobs to workers commuting from both Seward (153) and Seward County (417) for employment in primary jobs.

Table Six
Seward and Seward County Residents Primary Jobs
by County where Jobs are Located, 2010

	Number of Jobs in County		Percent of All Jobs	
County Where Jobs are Located	**City of Seward Residents**	**Seward County Residents**	**City of Seward Residents**	**Seward County Residents**
Seward	**1,370**	**2,858**	**43.9%**	**38.3%**
Lancaster	980	2,555	31.4%	34.2%
Douglas	153	417	4.9%	5.6%
York	87	242	2.8%	3.2%
Saline	54	216	1.7%	2.9%
All Other Locations	478	1,178	15.3%	15.8%
Total Resident Jobs	3,122	7,466	100.0%	100.0%

Source: U.S. Bureau of the Census, Local Employment Dynamics.

Table Seven provides data from the 2010 U.S. Census, Local Employment Dynamics Program, showing commuting patterns for workers with primary jobs located in Seward and Seward County. Data in Table Six indicate a significant number (and percentage) of residents outside the county commute to Seward and Seward County for employment.

In 2010, 1,043, or 39.5 percent of primary jobs in Seward were held by workers living outside Seward County. Also in 2010, 2,434 (46.0 percent) of the primary jobs in Seward County were held by workers commuting into the county. Lancaster County provided the largest number of workers commuting to primary jobs in Seward (310) and Seward County (751) in 2010. York County had second largest number of workers commuting into Seward County (213) and Saline County had the second largest number of workers commuting into Seward City (83) for employment in primary jobs.

Table Seven
Seward and Seward County Primary Jobs
by County where Residents are Located, 2010

County Where Workers Reside	Number of Primary Jobs Held		Percent of Primary Jobs Held	
	City of Seward Jobs	Seward County Jobs	City of Seward Jobs	Seward County Jobs
Seward	**1,598**	**2,858**	**60.5%**	**54.0%**
Lancaster	310	751	11.7%	14.2%
York	52	213	2.0%	4.0%
Saline	83	173	3.1%	3.3%
Douglas	48	102	1.8%	1.9%
All Other Locations	550	1,195	20.8%	22.6%
Total Employed Workers	2,641	5,292	100.0%	100.0%

Source: U.S. Bureau of the Census, Local Employment Dynamics.

Education and Training Programs

Educational institutions in the Lincoln and Omaha MSA provide a wide variety of postsecondary educational training programs. Table Eight contains a list technology related programs offered by the University of Nebraska and Nebraska Community Colleges at sites within the Lincoln and Omaha MSA.

Table Eight
Selected Technology Programs and Degree
University of Nebraska and Nebraska Community Colleges Located Within
Lincoln & Omaha Metropolitan Statistical Areas (MSA)

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
University of Nebraska-Lincoln			
Computer Engineering		BSCP, BS	
Computer Science		BA, BS	MS, PhD
Information Technology			PhD
Information Technology		BSEH	
Space & Telecommunications			LLM
Telecommunications Engineering			MS
University of Nebraska at Omaha			
Computer Science	Information Assurance	BSCS	
Computer Science	Internet Technologies	BSCS	
Computer Science	Software Engineering		MS
Computer Science	Telecommunications		MS
Information Assurance		BS	
Information Assurance			Graduate Certificate
Information Technology		BGS	PhD
Management Information Systems		BGS, BSIS	MS
Management Information Systems	Applied Research Methods in MIS		MS
Management Information Systems	Decision Support & Knowledge Management	BSIS	

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Management Information Systems	Electronic Commerce		MS
Management Information Systems	Health Informatics		MS
Management Information Systems	i-Business Application Development & Management	BSIS	
Management Information Systems	Information Assurance	BSIS	MS
Management Information Systems	Information Assurance		Grad Certificate
Management Information Systems	Internet Technologies	BSIS	
Management Information Systems	IT Audit and Control	BSIS	MS
Management Information Systems	Project Management		MS
Management Information Systems	Project Management		Grad Certificate
Management Information Systems	Systems Analysis and Design		Grad Certificate
Management Information Systems	Telecommunications		MS

Nebraska College of Technical Agriculture, Curtis

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Agribusiness Management System	Information Systems	AAS	

Metropolitan Community College Area

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Computer Technology Transfer	Computer Science	AS	
Computer Technology Transfer	Management Information Systems	AS	
Electrical Technology	Information Transport System	Specialist Diploma	
Electronics Technology	Computer Electronics	AAS	
Electronics Technology	Microcomputer Repair	Cert	
Information Technology	Call Center Specialist	Cert	
Information Technology	Database Administration	AAS	
Information Technology	Database Systems	Cert	
Information Technology	Database/Eb Programming	AAS	

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Information Technology	Helpdesk	AAS	
Information Technology	IBM iSeries Systems	Cert	
Information Technology	IT Professional Enhancement	Specialist Diploma	
Information Technology	Networking Technology	AAS	
Information Technology	Oracle Database Systems	Cert	
Information Technology	UNIX/Linus Operating Systems	Cert	
Information Technology	Web Development	AAS	
Mechanical Design Technology	Computer Aided Design	Specialist Diploma	
Mechanical Design Technology	Computer Aided Drafting	Specialist Diploma	
Microcomputer Office Professional		AAS	
Microcomputer Office Technology		Cert	
Microcomputer Office Technology	Information Technology	Cert	
Microcomputer Office Technology	Office Applications	Cert	
Microcomputer Technology	Network Security and Computer Forensics	Specialist Diploma	
Microcomputer Technology	Network Technician	Cert	
Microcomputer Technology	Web Author	Cert	

Southeast Community College

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Business Information Technology	Administrative	AAS	
Business Information Technology	Legal	AAS	
Business Information Technology	Medical	AAS	
Business Information Technology	Medical Transcription	Diploma	
Business Information Technology	MicroSoft Office	Cert	
Computer Programing Technology		AAS	
Electronic Servicing & Electronic Engineering Tech	EET Computers & Networking	AAS	
Microcomputer Technology	Microcomputer Programmer	AAS	
Microcomputer Technology	Network Manager	AAS	
Microcomputer Technology	PC Support Specialist	AAS	

Major	Concentration	Degree Offer Under Graduate	Degree Offer Graduate
Microcomputer Technology	Web Applications Programmer	AAS	

Source: Nebraska Coordinating Commission for Postsecondary Education, Directory of Postsecondary Institutions in Nebraska, **www.ccpe.state.ne.us/PublicDoc/Ccpe/directory.asp**.

In addition to offerings at state universities and communities colleges, Nebraska's independent colleges and universities and universities also provide educational programs at several sites within the Lincoln and Omaha MSAs. These include the following programs:

Bellevue University   Computer Information Systems Degree - Bachelor of Applied Science

Concordia University   Computer science - B.S. or a B.A. degree

Creighton University   Computer Science - Associates Degree (AS)

Doane College   Information Science and Technology (BS)

Grace University   Computer Information Systems in Business (BS), Computer Information Systems Software Programming (BS), Computer Information Systems Web Networking (BS)

Midland University   Computer Science (BS)

Union College   Computing (B.S.)

Competitive Employment and Career Opportunities

An employer providing high technology labor industries jobs with competitive wages and benefits and offering career opportunities would be a welcome addition to the employment base in the Seward, Nebraska Laborshed's Metropolitan Counties. The expected response to such employment opportunities would be significant, and it is anticipated that there would be an adequate labor supply response for a prospective new employer offering competitive wages and benefits in the Seward area. The workforce and commuting data presented in this report illustrate quite clearly that there is a sufficiently large labor force and population base living within the Seward, Nebraska Laborshed's Metropolitan Counties and that significant numbers of persons living in the area are commuting to other areas for employment.

In conclusion, the data and analysis presented in this report indicate that the Seward, Nebraska Laborshed's Metropolitan Counties and Seward County would be able to provide a significant number of dedicated and skilled workers to meet the needs of additional high technology labor industries employers in the area. While this report has not estimated a precise number of people that might be available to a prospective new employer in the Seward area, it is anticipated that if attractive working conditions with competitive wages and employee benefits were offered, a prospective new employer would be able to select their workforce from a substantial pool of applicants.

Questions concerning this report and the supporting data should be addressed to:

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